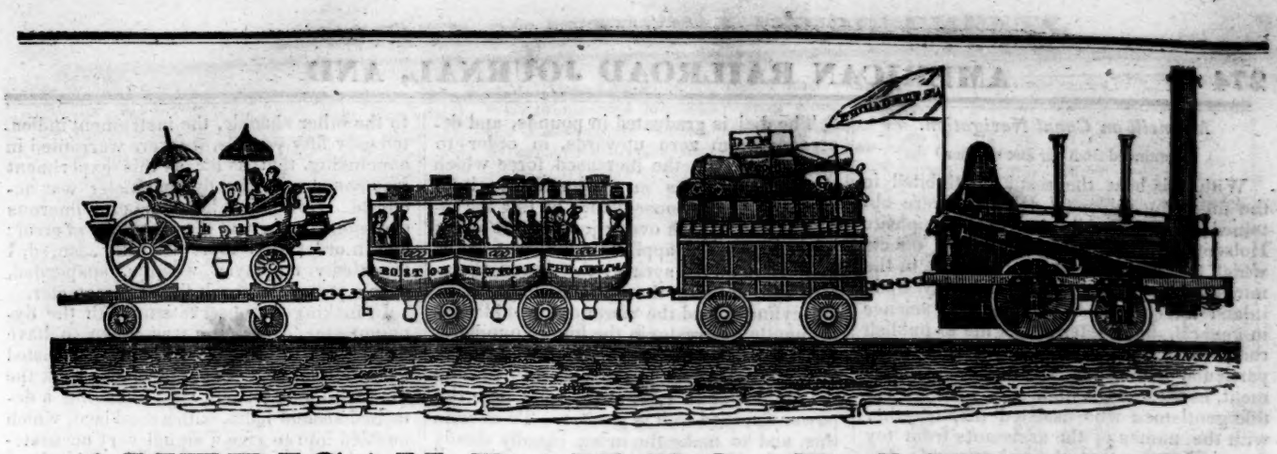

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, MAY 9, 1835. [VOLUME IV.—No. 18.

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AMERICAN RAILROAD JOURNAL.

NEW-YORK, MAY 9, 1835.

We have been furnished with a copy of the proceedings of a meeting held at Norwich, Conn., on the 29th of April, in relation to the railroad from Norwich to Worcester, for the purpose of opening an easy communication between Boston and Long Island Sound, and of course with New-York, which will be found on the 5th page of this number. This road will pass through a thickly populated and wealthy part of the country, which abounds in those productions that will, aside from the immense travel which will pass over it, insure, we doubt not, a good return upon the investment. Norwich will not quietly relinquish to Providence and Stonington the entire business between New-York and Boston, but with a spirit which does her credit, and which will ensure her success, enters the field, and will contend manfully for the prize—a prize indeed well worth her utmost efforts; and it is time that her citizens awake, as we perceive that the commissioners of the Long Island Railroad have given notice of their intention to open books to receive subscriptions for stock.

It is therefore important that those who mean to contend successfully for the business, should be ready to connect with that road when completed, as completed it surely will be.

We have been requested to call attention to the Great Au Sable Railroad, from Port Kent on Lake Champlain, to Keeseville. The following article was furnished us by a gentleman who is perfectly familiar with the business of that vicinity, and he assures us that it will prove a good investment.

Great Au Sable Railroad.—This road runs from Port Kent, on Lake Champlain, to Keeseville, on said river, 5½ miles. It was laid out by Major Beach, civil engineer of Newark. His report to the President was published in detail in vol. 3, p. 50, by which it will be seen from statistical documents, that upwards of 50,000 tons would pass over the road in the offset, yielding a neat income of 20 per cent., and constantly increasing, to which may be added, that the charter extends to 50 years, and that the amount of produce is unlimited; and that the road can be made for $6000 a mile, the materials being along the route.

We can safely recommend this stock to our friends, as among the most certain and productive in the United States. Capital stock, $60,000; 1200 shares at $50, 300 of which have been taken near the road. The residue, we are informed, will be in market next week, with explanatory maps, &c. It is contemplated to finish the road in October next. John T. Norton, President; Robert Gilchrist, Treasurer; Ephraim Beach, Chief Engineer.

The United States have also caused a breakwater to be laid off in front of the harbor of Port Kent, which has been acted upon by Congress, and will doubtless go into effect the ensuing year.

Our readers must know that Port Kent is the outlet of what is emphatically called the Sweden of America.

[*From the Baltimore American.*]

New York is alarmed for her Western trade, and well may she be. Pennsylvania has the shortest, cheapest and quickest line of communication between the West and the Atlantic, and we venture to assert without hesitation that her immense line of Canals will in a short time be as much thronged with trade as those of New York now are.

By the recent act of Pennsylvania, authorizing the extension of her Canal from Columbia down to the Chesapeake, Baltimore is placed in a position which gives her a direct and very large interest in all that concerns the Internal Improvements of that State. The opening of the extension Canal—Columbia being but forty miles from the tide waters of the Chesapeake—will unite our city with the Pennsylvania Canals by an unbroken water communication which will render the Baltimore market of easier and cheaper access than any other on the sea board. A share—a very large share—of the trade of Pennsylvania and of the great West, *will* descend to the Chesapeake through the Extension Canal, and make its way to us. This short work, at the first moment of its completion will turn the course of this immense trade in this direction, and if the undertaking is taken up and prosecuted with vigor and efficiency commensurate with its importance to those who are directly concerned in its successful accomplishment, it may be in full operation by the spring of 1837. The Maryland Canal, reaching from Port Deposit to the State Line, can easily be enlarged to the requsite dimensions while the remaining thirty miles between the Line and Columbia, divided into half mile sections, are being constructed. The friends of the work have only to determine that it shall be finished by the end of 1836, and will it be done.

Trenton Trade.—New evidences of the prosperity of our city, are daily opening upon us. A year ago, and our "Editor's attic" was in the most retired and quiet part of the town—now, the din of masonry, carts, and falling lumber, is in our ears—huge piles of stone, brick, and plank, are around our doors—and just before our window, proudly floating on the breeze, rolls our national flag, from the mast head of a gallant schooner. We walked out to make acquaintance with the stranger, and found her to be the *Caroline Frances*, a trim built craft from the New York ship yards, taking in a cargo of lumber, grain, flour, tar, Indian meal, &c. for the Eastern markets. She is the first of a regular line of packets owned by our enterprising citizens, Messrs. Rose, Green, Hoy & Co., intended to ply constantly between this place and New York.—This brings the up-river trade of the Delaware in rivalry with the trade of the Hudson, and enables East Pennsylvania and New Jersey to throw their produce into the Eastern markets, with as little, if not less, freight and duties than the interior of New York. Besides, goods stored at Trenton have this advantage—should sales in the Eastern mart be dull, the Southern are of still more easy access.

During the day, the Caroline Frances passed round from the Feeder Bason to the Trenton Basin, and there now waive her stripes and stars over the very fields where first that flag won the respect of its enemies, and the adorations of freemen—the Battle Field of Trenton.—[Trenton N.J. Emporium.]

To the Editor of the Am. Railroad Journal:

Sir,—What objection could there be to using a steam engine on the towpath of a canal?

Will some one of our readers who has leisure, answer this "query?"—[Ed. R. J.]

Macneill on Canal Navigation.

(Continued from our last number.)

With this boat the results exhibited in the following tables (II. III. IV.) were obtained on the Paddington canal, opposite Holsden Green. The important effects which they are calculated to produce in the minds of the unprejudiced, not only upon inland navigation, but to nautical science in general, have determined me to publish them in the fullest manner, giving every particular connected with their arrangement, as well as the names of those scientific gentlemen who assisted me, together with the names of the assistants from my own office, so that the most ample evidence of accuracy and care may be had. For more advantage will be derived by accurate trains of experiments than will follow from the assumptions of a mathematical century.

The first requisite was a good dynamometer for measuring the tractive force necessary to move the boat at various velocities, and as I showed a marked preference for my own, with which I had obtained such important results during my surveys of roads for the parliamentary commissioners, I shall give a description of it, in order that readers may be satisfied such preference was justly given.

The dynamometer or pirameter, I originally intended for measuring the draught of carriages on turnpike roads, and for this purpose I have used it very extensively under the Parliamentary Commissioners, for the London and Holyhead road, and elsewhere. The following is a description of the instrument, and in the appendix (B) will be found the opinions of competent judges upon its merits. When I at first endeavored to adapt Marriot's spring weighing machine, so as to ascertain from it the amount of the horse's draught, the stepping motion of the horse created a quick succession of vibrations, which completely prevent any one from reading off the figures indicated—and this confusion of vibrations will always prevent the simple adoption of any species of spring weighing machine. To remedy this inconvenience, and do away with the vibrations as much as was necessary, I applied a piston, working in a cylinder full of oil, and connected with the spring in such a manner that when any power or force is applied to it, so as to make the hand traverse the index, the piston is at the same time moved through the fluid. The connection of the spring and index with the cylinder is by means of a lever working on a pivot: the arms of the lever are of unequal length; the tail-piece of the spring and index is connected with the short arm; at the extremity of the long arm the piston rod is connected; the piston rod, after passing through a stuffing-box in the cap of the cylinder, is screwed into a piston or circular plate of thin brass, perforated with small holes; and out of one part of the circumference a square notch is cut, the use of which will be seen below.

By this construction, the resistance of the fluid to the piston, which acts at the extremity of the long arm of the lever, prevents the sudden jerks of the horse from being marked with those vibrations on the index so much to be avoided; at the same time the piston will move over a space proportioned to the intensity of the force exerted by the horse, and the same will be indicated accordingly upon the dial of the instrument; if the pulls follow each other in rapid succession, the piston will move slowly out, and the hand upon the index will turn round steadily and uniformly, until the power is balanced by the spring.

The dial is graduated in pounds, and decreases from zero upwards, in order to compensate for the increased force which the spring exerts in proportion as it is wound up; in consequence of this the index does not pass over equal spaces when equal forces are applied in different states of tension of the spring; the piston therefore will not pass through equal spaces in the cylinder, and the vibrations would consequently be greater in the higher numbers, because the velocity of the piston being less, the resistance to the piston in passing the fluid will be less, at the same time the power opposed to it is greater. To obviate this, and to make the index equally steady on all parts of the dial, a narrow slip of brass, formed into an inclined plane, is soldered to the inside of the cylinder, parallel to its axis, the largest (or highest) part of this inclined plane being at that end of the cylinder towards which the piston rises when the index moves towards the greater power. The notch which is said above to be cut in the circumference of the plate, (which traverses like a piston in this cylinder,) corresponds in size exactly with the largest part of this inclined plane; so that when the piston is at the upper end of the cylinder, the notch is completely filled up by the inclined plane; on the contrary, when the piston is at the lower end of the cylinder, the aperture is completely opened. By this contrivance the aperture through which the fluid is obliged to pass, as the piston moves from the lower end of the cylinder to the higher, is gradually contracted, and of course the resistance to the passage of the piston through the fluid is gradually increased, and thus compensates the increased power of the spring; rendering the vibrations nearly uniform from the lowest to the highest power. This compensation is similar to that by which the fusee regulates and gives uniform power to the main-spring of a watch.

This instrument* was placed in the doorway of the front cabin, (which is about fourteen feet from the stem of the boat,) and in a line with the ordinary tugging hook; secured with wooden braces and screw nails in such manner as to be perfectly firm and steady, in some instances the towing line was made fast to the weighing bar of the dynamometer, and the power communicated directly to it. In other cases the towing line was made fast to a shackle on an iron lever, the fulcrum of which was the screw bolt which made the bar fast to the gunwale of the boat on the bow nearest the towing path; the power being communicated from the lever to the dynamometer by means of another shackle; this last mentioned shackle being precisely twice the distance from the fulcrum. By this arrangement we were enabled to bring either the whole tractive force to be indicated on the dial plate at once, or only one half that power, as we please, by merely shifting from one position to the other.

I consider this arrangement to be advisable, lest by any chance there should have been an error in the graduation of the dynamometer. To prove its accuracy, we repeated most of the experiments with and without the lever. If when the power was communicated to the weighing bar of the dynamometer, the instrument indicated the whole traction to be one hundred pounds, and if, when the power was communicated to the other shackle, the instrument indicated only fifty pounds, we were warranted in concluding, that as far as this experiment was concerned, the dynamometer was accurate. Now this I had done on numerous occasions, to prevent the possibility of error; and in order to be more perfectly assured, I repeatedly employed weights, suspended, over a pulley, to check the dynamometer.

In making the observations with the dynamometer, every care was taken to have accuracy. Mr. Whitwell kindly assisted me in all these observations. He took the time with an excellent watch, having a detached second hand, with a dead beat, which enabled him to give a signal very accurately at intervals of two seconds. At these signals the power of traction indicated by the dynamometer was read off silently and distinctly by two gentlemen, whose names are at the head of their respective copies. Each of these gentlemen added the observations together, and took the means of each set.

Whilst these observations were making at the fore sheets of the boat, the times of the boat's passage were noted a little farther aft, by Mr. Turnbull and Mr. Dundas, who had each an excellent chronometer (from Arnold and Dent's.) The word "*time*" was given by Mr. Wilson, when the boat passed the stakes which had previously been driven in the embankment at distances of one hundred yards apart. By this means the observers of the time had never occasion to lift their eyes from the chronometers, except to note down the observations.

Besides the gentlemen making these observations, I was always assisted by others; but more especially by Mr. Alexander Gordon and Mr. Saxton, both of whom being so well qualified from their practical and scientific acquirements, for such a series of experiments, contributed very materially to prevent errors from taking place, by a general view over each department.

Fig. 3 represents a transverse section of the Paddington canal, opposite the village of Holsden Green; the soundings and measurements having been taken by Mr. Bourns and Mr. Turnbull.

[In the following experiments great care appears to have been taken to ensure accuracy; as the time of passing each stake, placed at 100 yards distance from each other, was marked by two first rate chronometers, and a full account of each is given, both the moment of passing each and the time between the stakes. It is not, however, deemed necessary here to give the separate statements of each time-piece—but merely the *mean* time of passing over the space of 100 yards between each stake, the velocity of passing, the mean force of traction as observed, and the weight of passengers in lbs., &c.]

In Table II., the first ten experiments are not published, because the arrangements were not, at that time, as perfect as could be wished. The length of the horse line was 82.1 feet; girth, 1.7-8ths; weight, 10 lbs. 1 oz. The length of the light line was 68.1 feet; girth, 7-8ths; weight, 2 lb. 8 oz. The standard adopted for calculating the squares and cubes of the velocities in the experiments mentioned in this table, and all those made on the Paddington Canal, was 2.517 miles per hour.

In Table III., experiments 5, 6, 7, 8, were made by a weight over a pulley; no accurate result. Experiments 13, 14, 15, 16, were also made by a weight over a pulley.

* In the modification of this instrument, which I have now mounted in a light double-bodied phæton, the dial plate is fitted, not only with an index and hand, but also with a card for determining the bearing; a pendulum which shows, by means of an index and hand, the inclination; a time-piece; and an index and hand to show the distance travelled by the wheels.

TABLE II.—*Experiments made with the "Grahame and Houston" Iron Boat, on the Paddington Canal, for the purpose of ascertaining the law of resistance, or force of traction at different degrees of Velocity.* 8*th April*, 1833.

No. of Experiments.	Mean time of passing over 100 yards between each Stake.	Velocity in miles per hour.	Mean Force of Traction in lbs., as observed.	Mean Force of Traction, calculated fm. the squares of the Velocities.	Mean Force of Traction, calculated fm. the cubes of the Velocities.	Weight of Passengers in lbs.	OBSERVATIONS.
	"	"					
11	42.25	4.841	75.				Wind ahead, but scarcely perceptible.
12	40.5	5.050	69.87				
13	40.0	5.113	66.50				
14	43.5	4.702	47.26				
15		4.955	61.21	97.90	192.58	2511	
16	37.5	5.454					
17	36.5	5.603	130.46				
18	36.75	5.565	150.11				
19	36.0	5.681	143.77				
20		5.616	141.44	125.94	280.38	2511	
21	29.0	7.053	140.53				
22	28.5	7.177	122.76				
23	27.5	7.437	119.67				
24	26.75	7.646	107.48				
25		7.420	116.63	219.09	646.68	2511	
26	27.0	7.575	170.87				
27	25.5	8.021	140.04				
28	25.0	8.181	136.98				
29	25.0	8.181	144.66				
30		8.127	140.56	262.83	849.71	2511	
31	21.75	9.404	226.28				
32	22.75	8.990	211.58				
33	23.0	8.893	183.40				
34	23.0	8.893	180.21				
35		8.925	191.73	314.80	1125.38½	2511	
36	50.37	4.060	50.12				
37	47.37	4.318	49.84				
38	47.5	4.306	42.59				
39	50.25	4.070	43.30				
40		4.231	45.24	71.24½	119.89	2711	
41	23.0	8.893	235.07				
42	19.0	10.765	281.00				
43	18.0	11.363	303.47				
44	18.0	11.363	278.14				
		11.163	287.53	496.10	2202.02	2711	
45	19.75	10.356					
46	17.5	11.688	309.16				
47	18.5	11.056	311.39				
48	19.5	10.489	261.82				
49		11.077	294.12	488.83	2139.2	2711	
50	96.5	2.119					
51	91.0	2.247	23.45				
52	94.25	2.170	33.75				
53	92.25	2.217	23.3				
54		2.211	23.5	19.47	17.04	2711	
55	53.75	3.805					
56	57.25	3.572	47.28				
57	56.5	3.620	47.18				
58	56.0	3.652	45.04				
59		3.614	46.5	52.03	74.43	2711	
60	24.5	8.349					
61	23.5	8.704	174.97				
62	23.25	8.797	193.41				
63	23.25	8.797	174.18				
		8.766	180.85	306.14	1179.74	2711	

TABLE III.—*Experiments made with the "Grahame and Houston" Iron Boat, on the Paddington Canal, for the purpose of ascertaining the law of resistance, or force of traction at different degrees of Velocity.* 9*th April*, 1833. 15 *Passengers.*

No. of Experiments.	Mean time of passing over 100 yards between each Stake.	Velocity in miles per hour.	Mean Force of Traction in lbs., as observed.	Mean Force of Traction, calculated fm. the squares of the Velocities.	Mean Force of Traction, calculated fm. the cubes of the Velocities.	Weight of Passengers in lbs.	OBSERVATIONS.
	"						
1	73	2.801	29.73			2381	Weight the same throughout. Tracked by one man.
2	77.25	2.647	26.21				
3	83.5	2.449	25.6				
4	83.25	2.456	23.9				
		2.517	25.24	25.94	25.24		
5	84	2.435					
6	80.5	2.540	21 lbs.				
7	76.5	2.673					
8	79.25	2.580					
		2.597	21	26.87	27.72		
9	68.25	2.977	35				Tracked by two men
10	68.0	3.008	26.2				
11	63.25	3.233	33.8				
12	64.75	3.158	29.95				
		3.133	29.98	39.10	48.67		
13	67.5	3.030					
14	69.0	2.964	33 lbs.				
15	67.75	3.019					
16	73.25	2.791					
		2.924	30	34.06	39.57		
17	48.5	4.217	59.4				
18	48.0	4.261	56.62				
19	45.5	4.217	62.83				
20	44.0	4 648	65.5				
		4.375	61.65	76.25	132.55		
21	52.0	3.933	58 lbs. too little by 10.				Tracked by two horses.
22	45.5	4.495					
23	43.75	4.675					
24	44.25	4.622					
		4.597					
25	21.5	9.513	267.0				
26	21.25	9.625	238.52				
27	22.0	9.297	228.20				
28	21.75	9.404	231.48				
		9.442	232.73	355.18	1332.51		
29	16.5	12.396	436.94				
30	17.0	12.032	395.66?				
31	19.5	10.489	300.26				
32	20.0	10.277	270.5				
		10.383	285.15	429.50	1771.93		
33	18.25	11.207	403.6				
34	19.12	10.697	344.8				
35	20.25	10.100	273.0				
36	22.0	9.297	245.75				
37		10.031	287.85	400.87	1597.77		
38	75.5	2.709	27.34				
39	77.5	2.638	25.21				
40	81.0	2.525	22.01				
41	86.0	2.378	22.82				
42		2.513	23.34	25.16	25.12		
43							
44	61.75	3.312	37.35				
45	64.5	3.171	32.36				
	64.25	3.183	32.23				
	65.0	3.146	30.15				
46							
47		3.166	31.58	39.93	50.23		Boat tracked by two men. Tracked by two horses, large line.
48	17	12.032	350.9				
49	17	12.032	337.75				
50	18.5	11.056	318.3				
51	20.5	9.977	276.55				
52		11.021	310.86	483.90	2119.05	2381	
53	26.25	7.792	189.5				
54	27.	7.575	148.7				
55	26.5	7.718	147.22				
56	26.0	7.867	148.85				
		7.72	149.26	237.44	728.33	..	One horse employed to track the boat.
57	36.5	5.603	132.84				
58	38.25	5.347	135.26				
59	34.0	6.016	155.41				
60	38.25	5.347	154.52				
61		5.57	148.39	123.60	273.54	..	
62	26.25	7.792	199.07				
63	25.75	7.943	159.65				
64	26.75	7.646	149.2				
65	25.25	8.100	147.62				
		7.896	152.15	248.38	779.28	..	
66	33.75	6.060					
67	35.5	5.761	168.58	139.48	327.93	..	
68	33.5	6.105					
69	34.75	5.886					
70		5.917					

APPENDIX.

A.

Specification of a Light Iron Passage Boat, such as ply on the Summit Level of the Forth and Clyde Canal, between Port Dundas and Windford, and such as was used in the Experiments detailed in the foregoing paper.

Extreme length, 70 feet; do. breadth, 5½ feet. The iron of the very best manufacture.

The body plates in particular must be free from rust, cracks, blisters, and roughness of every description. The whole of the iron must be coated with linseed oil, previous to its being used. And the boat must be built under cover, so that the work may be kept dry until the boat is finished.

Although not shown on the plan, the said boat has a hollow keel, so as to prevent the lodgement of water beneath the floor, between the ribs. The stem and stern shall consist of bars of iron, six inches in breadth, and a quarter of an inch thick, which are hammered flat at the lower part to the breadth and thickness of the keel-plate, to which they are scarfed and secured with clenched rivets.

As stated above, the keel-plates are formed hollow, and consist of hoop iron, six inches in breadth, and one eighth of an inch in thickness. To which a wood keel of Memel plank, fifty feet in length, nine inches in depth, three inches in thickness next the bottom of the boat, and an inch and a half at the lower edge, tapered off to nothing at each end, must be secured to the keel-plates with glands an inch and a half in breadth, and a quarter of an inch thick, sunk flush into the keel, and screwed inside at the distance of three and a half inches apart.

The ribs shall consist of T and angle iron, and placed alternately at the distance of twelve inches from each other, and extending from gunwale to gunwale; after being bent to suit the curved form of the vessel, two rows of holes are punched on the flat side of the angle and T ribs to secure the body plates, and holes at convenient distances are punched through the upright flange to secure the false ribs for the inside lining.

The body-plates must consist of the best double rolled No. 16 sheet iron, two and a

half lb. per superficial foot, and these sheets are in lengths of eight and ten feet. The first range of bottom plates which join the hollow keel, eight feet in length and 24 inches in breadth; the next two ranges on each side which form the bilge, ten feet in length, by twelve inches in breadth, and the range next gunwale, ten feet in length by eighteen inches in breadth. Particular attention is requisite, both with the view to the strength and appearance of the boat, that the whole of the body-plates be run in fair sheer lines from stem to stern, and that the lower edge of each succeeding length or range of plates cover the upper edge of their accompanying ones, three quarters of an inch, so that the boat in every respect may have the appearance of being clencher built.

The butts, or end joints of the plates, must be kept smooth, and meet on the centre of the T rib, and the joints of each succeeding plate be so shifted as to meet on the T rib nearest the centre of its accompanying ones. It must, however, be expressly understood, that previous to any of the plates being rivetted, a thin stripe of cotton cloth, dipped in white lead paint, be put in between the overlaps of the edge joint, and between the ribs and the end joints, so as to prevent leakage and corrosion. The whole end and edge joints must be secured with countersunk rivets, made from a three-sixteenth of an inch bore, placed at the distance of three fourths of an inch from centre to centre, and made from the best charcoal rivet iron; the rivets, except those for securing the end joints, must be placed two inches distant from each other, and the whole, as stated above, be countersunk, and kept as smooth as possible.

Plates, six inches in breadth, and one eighth of an inch in thickness, to be placed on each side along the bilge, over the body plates, where they are most exposed to injury when taking on board and landing passengers, which will extend from the round of the entry, at the bow, to the commencement of the run or exit at the stern, and is secured to the ribs and body plates with countersunk rivets, placed at the distance of three inches apart; but before they are secured, both the bilge plates and body plates must be properly coated with white lead paint, and a ply of sheathing dipped in the same, put in between.

One and a quarter inch of angle bars extend from stem to stern, to form the gunwale, to which welts or wood mouldings are secured; and another of the same dimensions to be placed seven inches below the gunwale, to which the wood-belting, three inches thick, and four inches deep round off, is to be secured.

The boat is framed and moulded, and in every respect formed exactly and agreeably to the plan, and the work must be done in a substantial and workmanlike manner.

Specification of the Carpenter and Joiner Work of such a Light Iron Canal Passage Boat.

The length of the boat as specified, at seventy feet in length, five feet six inches in breadth, and two feet six inches in depth. It is divided in the following manner, viz. Fore deck, 4 feet in length; fore sheets, space for steerage cabin and principal cabin, &c., and after sheets, according to the number of the travellers intended for; after deck, 4 feet.

The false ribs for securing the inside lining consist of willow timber, one inch in breadth, and seven-eighths of an inch in deepness, which must be free from knots and shakes, so that they may bend easily after being stoved to the curved form of the boat, to which they are secured with nails, rivetted to the upright flange of the ribs.

The sea-crofts, fore and aft, must extend from the stem and stern to the end of the cabins, and be four inches in breadth, and two inches in thickness, of best Memel plank, which is kept flush with the gunwale inside, and secured with three-eighths of an inch rivets, one throughout each rib.

Two timber heads on each side, near the bow and stern, are placed in the most convenient situation for mooring the boat, and secured with glands fixed with clenched rivets, so that the timber heads may be taken out and replaced when found necessary; to consist of solid oak timber, five inches in breadth, two inches thick, one foot in length below the gunwale, and seven inches above.

The beams which support the deck fore and aft, consist of oak plank two inches thick, three inches deep in the centre, and two inches deep at each end, with a curve of half an inch to the foot in length; and they are secured with a sheet-iron plate to the gunwale, angle iron, and sea-croft.

The gunwale or covering boards should consist of the best Memel fir plank, one inch in thickness, which extends from stem to stem; the cover is secured to the gunwale flange and wele that forms a moulding round the same.

The ends and divisions of the cabins should consist of Memel plank, two and a half inches in breadth, and one and three-fourths inch thick, which will form diagonal frames, for the purpose of strengthening the boat, so as to resist external pressures. The said frames must be lined at the ends of the cabins outside, with the best half-inch American yellow pine plank. The framing in the inside of the cabins may be lined as may be approved of.

The sleepers, for support of the flooring, should be two inches deep, by one and a quarter inch thick, placed and fitted to each alternate rib, and fixed to the upright flange with rivet nails. The flooring should consist of the best yellow pine plank, one inch thick, and not to exceed six inches in breadth, which must be properly cleaned, ploughed, and feathered.

The height of the cabins, from the top of the floor to the lower part of the beams, six feet at the centre, and the height of the sides above the level of the floor will be five feet under the beams, consequently the beams will have a curve of twelve inches.

The standards or stancheons of the sides of the cabins should consist of the best white American oak, one inch thick, and one and a half broad at the gunwale, and one inch in breadth at the top of the cabin, and placed at each alternate rib, to which it is secured, the distance being twenty-four inches from centre to centre. The top gunwale, for the support of the roof, to be made of the best Memel fir or red pine, free of blemish or knots, and extend the whole length of the cabins, two and a half inches deep outsides; the upper edge is bevelled to suit the curve of the beams, and two inches in thickness, mortised to fit the tenure of the standard, having a projection for a bead, and thickness of outside lining.

The beams, as stated above, to have a curve of twelve inches, to consist of the best clean ash timber, an inch and a half in breadth, by one inch in depth, the lower part rounded to a half-circle, and is placed at the distance of two feet from centre to centre, dove-tailed and secured to the gunwale with screw-nails; and a framing of iron wire gauze, well painted, shall be made to connect them, so that the top may form one solid connected form from end to end.

A stringer extends the whole length of the cabins in the centre to support the roof, which is let in, and bound to the diagonal frames, the upper edge kept flush with the top of the curve, consisting of clean solid white Quebec oak timber, three inches in depth, by an inch and a half thick; into which the beams are let nearly in the whole depth, and made exactly for the top covering.

The space outside of the cabin, fore and aft, must be lined from the floor to the gunwale with five-eighths of an inch red pine boards, and seated in the usual form; the tops seven-eighths of an inch thick, with round supports and cross bearers, with two front rails, two and a half inches in breadth, beaded, and let in flush with the bottom and top of the supports or feet.

In order that the boat may be kept as light as possible in the fittings-up, there should be no inside lining of wood from the floor up, consequently the whole seatings in the cabins must have fronts supported with brackets; these brackets to be secured to a stringer, fixed to the sides of the boat the whole lengths of the cabin, three inches in breadth, by an inch and a quarter thick, to which the brackets are let in flush, and nailed to it and the floor. The seats in the principal cabin to be sixteen inches in height, so as to allow cushions two inches thick and eighteen inches in breadth; the back to be one inch lower than the front, which is considered an improvement as a comfortable seat; the seats in the principal cabin may consist of cane, light wood, or lacing, as may be approved of; the fronts consisting of the best American yellow pine five-eighths boards. The seats in the steerage, eighteen inches in height, by fourteen inches in breadth, and fixed with brackets in the same manner as the principal cabin, and be seven-eighths of an inch in thickness.

The outside lining between the gunwale and top of the cabins should consist of the best yellow pine half-inch boards, well seasoned, free of knots, sound, and properly cleaned, ploughed, and feathered. The first board will extend the whole length of the cabins, eight inches in breadth, neatly joined to the covering boards, thin fitters being fitted between the standards or stancheons, and, laid in white-lead paint, so as to be water-tight, is fixed to the side standards with springs.

The space between the standards being twenty-four inches from centre to centre, it is proposed that light windows or patent gauze wire shall be placed in every alternate space, so as the passengers may have a view of the country without being under the necessity of removing to the outside. These windows and frames should be made as light as possible, and made to slide or fold, as may be considered most convenient.

The inside lining, from the seats up, and between the windows, should consist of oil-cloth, fixed and finished with beads and facings.

The top or cover of the cabins to consist of oil-cloth, which must be perfectly water-tight, and fixed to the beams, top gunwales, and ends of the cabin, with a moulding. It will be necessary to have a thin sheet of plate-iron for the funnels, so as to prevent any danger from the heat of the stoves during the winter.

The outside doors should consist of red pine plank, one inch and a quarter thick, bound and pannelled, to be hung with neat

light bats and bands, have good five-inch rimmed locks, brass mounted, to open out in two halves, and to have small brass slip bolts at top and bottom. The doors in the divisions to have check locks, and hung with five-inch edge hinges.

The inside doors should consist of the best yellow pine plank, one and one-eighth inch thick, and twenty-two inches in breadth, and finished with facings.

That the whole of the inside, previous to the joiner work being commenced, should have two coats of good lead color paint, and the whole of the iron-work on the outside, as well as the wood-work in the outside and inside, should have three coats of paint of different colors, and finished in a sufficient and workmanlike manner. (*To be continued.*)

[For the American Railroad Journal.]

Railroad Meeting.

In pursuance of public notice a meeting of gentlemen interested in the railroad from Norwich to Worcester, was held at Norwich in the Town Hall on Wednesday evening last—J. G. W. Trumbull in the chair, L. F. S. Foster, secretary.

M. J. A. Rockwell, from the committee appointed at a former meeting to collect and furnish facts connected with the subject, presented a full report. This report contains a mass of interesting and important matter in relation to the proposed road, which will be laid before the public. Mr. Rockwell read such portions as he judged had the most direct bearing upon the question, from which it appears,

1. That the route of the Norwich and Worcester railroad is a direct route to Worcester by the vallies of rivers, through a country in every respect favorable, with an elevation to be overcome in no point of more than 30 feet per mile, and the average elevation of 11¾ feet per mile, and that the materials of construction are at hand, and the expense would be unusually small.

2. That within five miles of the route there are 75 cotton manufactories, 27 woollen mills, about 100 stores, and numerous mills for the manufacture of iron, paper, &c. That the number of cotton spindles employed in the two counties in Connecticut through which this railroad passes, is officially ascertained to be 100,229, being more than three fourths of the entire cotton manufactories in this state; and that there is probably nearly an equal amount in the county of Worcester, and that there is not in any part of this country a region so abounding in manufactories as on the borders of this route.

3. That the present amount of transportation to market from towns very near, and on the borders of this route, is at least equal to thirty thousand tons annually transported through the entire route, and would be greatly increased by transportation on the borders of the Boston and Worcester Railroad, from Boston, and from the country north of Worcester.

4. That there is unoccupied water power on and near the borders of this route, ascertained by actual surveys to be not less than sufficient to carry 1,000,000 spindles.

5. That there are in various places on and near the route, valuable stone quarries, for building; and in the town of Killingly inexhaustible quarries of flagging stone, pronounced by Professor Mather superior to any flagging stone now in use in this country.

6. That the railroad from Norwich to Worcester, and from Worcester to Boston, passes through the most populous part of this country; and that the counties through which these railroads will pass, exclusive of the county embraced by Boston, contained in 1830 a population of 273,606, and that there is a population north of Worcester, and of the railroad from Boston to Worcester, which would find this the most direct route to New-York, not less than 250,000, exclusive of Boston.

7. That the route by railroad from Boston to Worcester and Norwich, and thence by steamboat to New-York, is 100 miles by railroad, and 130 by steamboat; and when completed, the passage may be made in 16 hours, and is the best existing route between Boston and New-York, being the easiest, cheapest, most direct, and rapid.

8. That the route from Boston to Worcester may be readily reduced to 88 miles; that Norwich is within three miles as near New-York as Stonington, and the route from Boston by the way of Norwich, to New-York, would be as near as by way of Stonington.

9. If a railroad is constructed on Long Island, the distance from Norwich to its termination is 28 miles, and from Stonington 25 miles—enabling the Norwich and Worcester railroad to avail themselves equally well of the Long Island railroad.

10. That a railroad constructed on the borders of Long Island Sound would accommodate the long travel, it being estimated that the number of passengers annually passing in the steamboats between New-York and the towns on the borders of the Sound is not less than 300,000; and that the distance from Norwich to New-York is 130 miles, and from Stonington to New-York, including two ferries, is 122 miles.

11. That by the extension of the Railroad communication to Lowell, and thence farther north and east, every part of the chain is benefitted, and this route greatly improved.

12. That the extension of the Boston and Worcester Railroad to Springfield, and thence to Albany, by opening the valley of the Connecticut, and affording a railroad communication with the interior of New-York and the west will add to the revenue of this railroad.

The following resolutions were offered by Mr. C. W. Rockwell, and unanimously adopted:

1. Resolved, That this meeting consider the valleys of the French and Quinebaug rivers as affording the natural and most inviting route for a railroad from Worcester to Long Island Sound.

2. Resolved, That inasmuch as the survey of this road is entirely through a valley, crosses no hills, and abounds with the best materials, the construction of a railroad can be effected at an expense much below any other route.

3. Resolved, That since the contemplated route for a railroad from Norwich by Worcester to Boston, is through a section of country the most populous of any in the Union, there must be a support for passengers on the borders of this route, unequalled by any road now in operation or contemplated.

4. Resolved, That the amount of transportation and travel, from upwards of one hundred cotton and woollen manufactories, and from one hundred stores on the line of the road, make it certain that ample remuneration will follow the immediate construction of it.

5. Resolved, That the unemployed water power on and near the line of this road, (equal to the operation of at least five hundred thousand spindles,) the almost inexhaustible supply of ship timber, the quarries of building and flagging stone, present additional inducements that urge most strongly to the early completion of the work.

6. Resolved, That since, by a branch not exceeding 5 miles, to the Boston and Worcester Railroad (at Millburg), Boston will be brought within about 88 miles of Norwich (the same distance as Stonington,) this route between New-York and Boston, is within three miles as near as by Stonington and Providence, and is at least equally favorable, since it avoids that part of Long Island sound which is often boisterous.

Resolved, That the construction of a railroad upon Long Island will benefit the road from Norwich to Worcester, to the same extent as the Providence and Stonington route, since from Greenport, the eastern termination of the Long Island road, the distance to Norwich is only three miles greater than to Stonington, and to counterbalance this, the distance in the Sound is 10 miles less.

8. Resolved, That as charters of the most favorable character have been granted for this route by Connecticut and Massachusetts, it is important that measures be immediately adopted to prosecute this great enterprise.

9. Resolved, That it be recommended, that a convention of delegates from the towns on the borders of the route be held at Norwich on Wednesday the 10th of June next, for the promotion of this object, and that a committee be appointed to make arrangements for the same.

The following gentlemen compose that committee: C. W. Rockwell, W. C. Gilman, James L. Ripley, John Breed, and Asa Child.

The meeting was addressed by Messrs. J. A. Rockwell, W. C. Gilman, P. Lanman, C. W. Rockwell, John Breed, W. P. Eaton, and H. Fiske.

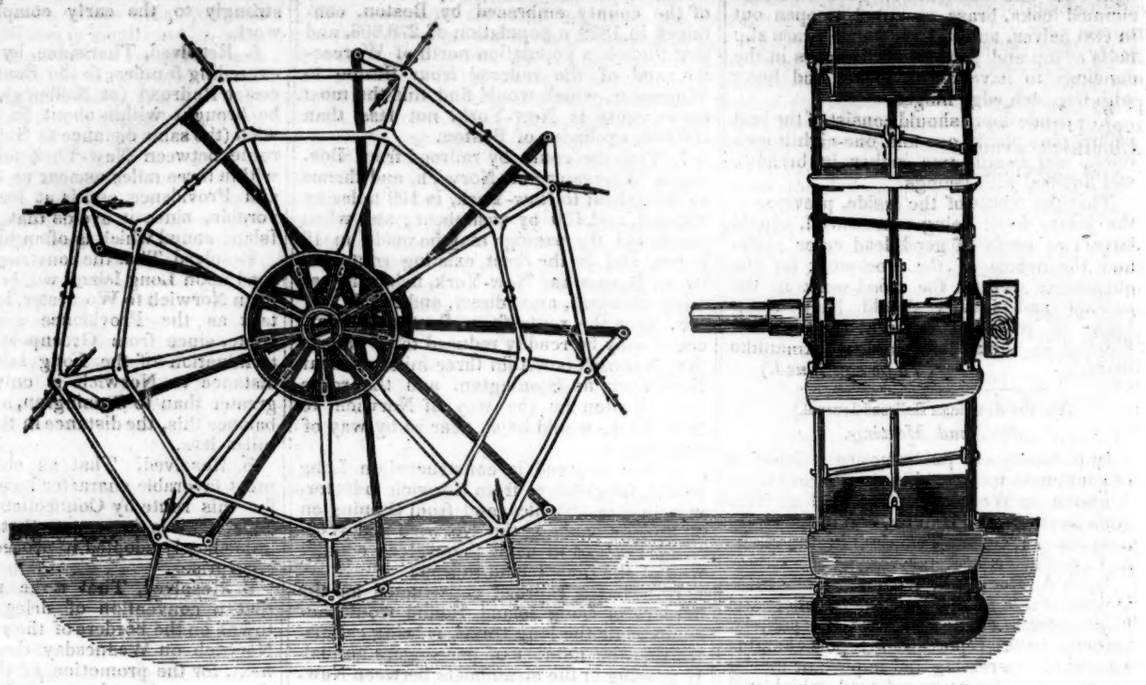
The following were appointed as delegates to attend the convention to be held at Worcester on the 2d of July next: Messrs. Calvin Goddard, Nathaniel Shipman, D. Ripley, Wm. P. Greene, Jno. L. Buswell, Chas. P. Huntington, Elisha Tracy, Sam'l. Tyler, John Breed, Asa Child, Wm. C. Gilman, J. A. Rockwell, Thos. Robinson, C. W. Rockwell, Wm. Williams, Jr. Jed. Huntington, Geo. L. Perkins, Amos H. Hubbard, J. G. W. Trumbull, J. W. Kinney, Jas. L. Ripley, Leonard Perkins, Charles Coit, Jno. T. Adams, Edward Whiting, Samuel Story, Gurdon Chapman, Jos. Backus, E. C. Chapman, Jos. Spalding, Andrew J. Clark, L. F. S. Foster, Erastus Coit, Geo. B. Ripley, W. P. Eaton, Simeon Thomas, Gurdon A. Jones, and Gurdon Pendleton.

Colonel Long has been appointed by the Secretary of War to survey the route of a railroad from Portland to the Canada Line. Lord Aylmer, Governor of Lower Canada, expresses himself highly in favor of the project of connecting that province with Maine, by the proposed railroad, and has appointed a gentleman to survey the route in connection with Col. Long.

Amount of Produce received at Cincinnati, by the Miami Canal, between the 1st of January, and the 1st of April, 1835, during which time the Canal was closed about 6 weeks.

Flour,	15,612	Bbls.
Whiskey,	10,168	"
Pork,	5860	"
Lard,	270	"
"	14,039	Kegs.
Bacon,	483	Hhds.
Bacon and B. Pork,	2,600,937	Lbs.
Beef,	120	Bbls.
L. Seed Oil,	120	"
Corn,	4,425	Bush.
Clover Seed,	193	"

Amount of Flour inspected, from the 1st of January up to the present date, 8161 bbls.—[Cincinnati Gazette.]



[From the London Mechanics' Magazine.]

Morgan's Paddle-Wheel in its Latest and Most Approved Form.

The paddle-wheel now commonly known by the name of *Morgan's*, was originally invented by Mr. Elijah Galloway, and patented by him in 1829. The first trial made of it was on board a steam vessel, of which Mr. Wm. Morgan was the principal and acting owner, who was so much pleased with its performance that he became by purchase the proprietor of the patent. The Commissioners of the Admiralty were afterwards induced to order that a pair of these wheels should be fitted by Mr. Morgan to H. M.'s steam vessel Confiance. On the 9th of September, 1830, Commodore Warren, accompanied by Mr. Lang, of the Dock-yard, Woolwich, proceeded down the Thames in the Confiance, on an official trial of the wheels. The Report made by the Commodore to the Admiralty, was, "That with 23½ revolutions of the engine, (24 to 25 revolutions being their regulated speed,) the vessel had improved in speed (as far as could be collected from so limited a trial) from 1 to 1½ knot an hour; that although the floats, in leaving at such rapidity, must necessarily disturb the water, so perfectly were the ill effects of the back-water obviated, that when the vessel was going at her utmost speed, he had caused a wherry, which was being towed astern, to be hauled up along-side, and close up to the paddle-box, without the slightest inconvenience, or without her shipping even a spray; and finally, that the previous vibration suffered from the action of the wheels was so reduced as to be barely sensible on the paddle-box itself."

On the 11th of September, Admiral Sir Geo. Cockburn embarked on board H. M.'s steam yacht, the Lightning, to proceed to the channel on an experimental cruise, H. M.'s steam vessels, the Confiance and Echo, being ordered to proceed in company. These three vessels were all fitted with engines of equal power, namely, 100-horse power each. The Lightning, however, having been originally laid down for a steamer, is fifteen feet longer, three feet narrower, and draws nearly two feet less water than either of the other two vessels, and from her superior swiftness and other qualities, was selected for H. M.'s steam yacht. The Confiance and Echo are in every respect sister vessels, were laid down from the same drawing, and were originally intended for gun brigs. The three vessels were started abreast by signal from the Vice-Admiral. The improvement in the Confiance was evident from the first starting, as she was enabled to keep even pace with the Lightning, whenever the revolutions of her engines reached 23, and to pass her whenever they exceeded that velocity. In this way they ran together to the Downs, where they anchored. The Echo, although previously of equal speed with the Confiance, fell back so rapidly, that at the expiration of the first hour, the Vice-Admiral made her signal to return, she being then two long miles astern. Hitherto the weather had been calm, and the water smooth.

On the 12th September the two vessels, Lightning and Confiance, were ordered to weigh, and to stand to the S. W., wind fresh, and sea rough ahead, circumstances in which the previous superiority of the Lightning had been most remarkable. The lead was now, however, very decidedly taken by the Confiance, whose gain over her competitor, under these circumstances, was about a half knot on seven miles per hour, that being the speed at which the Lightning was driven.

The following day the Confiance was ordered to New-Haven, and accordingly started at 8½ A. M., wind strong, and heavy sea from W. S. W. At 4 P. M., off Beachy Head, she passed H. M.'s steamer Carron, (which vessel had left the Downs five hours before her,) making the best of her way to Plymouth on ser- the behavior of the wheels, stated "that vice. Having performed the service required of her, the Confiance was ordered back to Woolwich, where she anchored September 14. The commander, Lieut. Belson, having been ordered to report on the improvement in the vessel's speed was proportionately greater in a sea-way than in smooth water; that the action of the wheels was no way impeded by that of the waves, since the variation in the velocity of the engines did not exceed one to two revolutions; that the vessel's way was never stopped; and that there was no sensible increase of vibration on the paddle-boxes during the gale, over the very slight tremor felt in smooth water."

The commanders of H. M.'s steam vessels Carron and Confiance having received orders to proceed on a further experimental cruise to Cape Clear, and thence round the Fasnet Rock back to Plymouth, these vessels, similar in every respect, excepting in their wheels, started from the Breakwater by signal from the Port-Admiral on the 1st of October, wind strong, and a rough sea from the W. S. W. In five hours the Carron was hull down astern. The Confiance anchored at Hamoaze on the 4th of October, and the Carron on the 5th. The Confiance performed in 54 hours the distance which occupied the sister vessel, the Carron, 84 hours in running. Independently of the great saving of fuel effected, namely, 10 bushels per hour on the time saved in running the same distance as the sister

vessel, viz., 30 hours, other advantages have been secured by the modification in question, as may be collected from the reports officially made, jointly and separately, by Lieut. Potburry, then commanding the Confiance, and Lieut. Lapidge, in command of the Carron. In reply to the questions put to them by the Admiral commanding at Plymouth, in virtue of directions from the Commissioners of the Admiralty, these officers stated, "that the Confiance had, on a comparison of their respective logs, gained by the alteration in her wheels an increase of speed of 2 knots on 7 in smooth water, and 2½ knots on 4 to 4½ knots in rough weather; that the action of the paddles did not bring up the engines or retard their velocity in a head sea; that in rolling, their action assisted in righting the vessel, and that the wear and strain, as well on the vessel as on the engines, was materially reduced."

The superiority of the new wheel was considered to be so decisively established by these trials with the Confiance, that Mr. Morgan was subsequently employed by the Lords of the Admiralty to apply it to the other government steamers—the Flamer, the Firebrand, the Columbia, the Spitfire, and the Lightning. We extract the following particulars respecting the performances of these vessels, from the evidence lately given on the subject by Mr. Morgan, before the select committee on Steam Navigation to India, and from the official reports of their respective commanders to the Admiralty:

The Flamer displaces 590 tons (including 120 for engines, 140 for coals, and 30 for stores); her cylinders are of 42 inches diameter, and 4 feet stroke; and her wheels 18 feet in diameter, and 5 feet 6 inches wide. When the vessel is deep, her wheels revolve from 14 to 20 times per minute in rough water, and 26 times per minute in smooth. When the vessel is light, the speed of the wheels is increased from 18 to 22 revolutions in rough water, and from 26 to 26½ in smooth. The commander of the Flamer, Lieut. Bastard, in report of 23d January, 1834, says of the wheels, "in six weeks of most tempestuous weather, found them to act remarkably well, without even a single float being shifted."

The Firebrand was built on the same lines, and is of the same scantlings, as the Flamer, with the exception of having 9 inches more depth; she had also originally 20 horses more steam power. Her paddle-wheels were at first of the common sort, and then her velocity was three quarters of a mile less than that of the sister vessel, with wheels of Mr. Morgan's construction. But since the Firebrand has been supplied with Morgan's wheels, she has attained nearly the same speed as the Flamer; and this though her old engines have been replaced by a new pair, of no greater power than those of the Flamer—namely, two sixty's.

The Columbia, as originally constructed, displaced altogether 480 tons; her engines were of 120-horse power, and her wheels (of the common sort) 16 feet 6 inches in diameter, and 8 feet wide. Her performance was then from 14 to 16 revolutions per minute, when she was deep; and from 24 to 26 revolutions per minute when light; the weather in both cases favorable. Being afterwards supplied with a pair of Morgan's wheels, 17 feet in diameter, and 5 feet 2 inches wide, with a new pair of engines of only 100-horse power, and with 30 tons more of coal, making her total displacement 40 tons more than before, the wheels performed, in similar weather, from 20 to 25 revolutions per minute when she was deep, and from 26½ to 28 when light. "She obtains," says Lieut. Ede, her commander, "greater speed than with the superior power she had before and the old wheel. The new wheels save the engines."

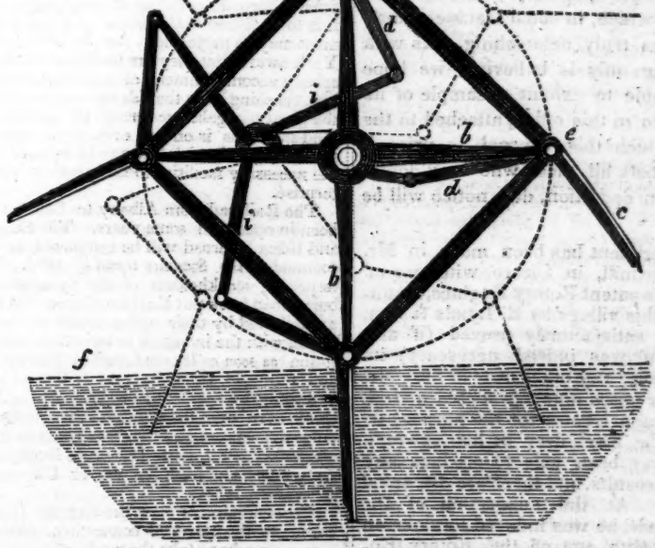
The Spitfire, with engines, coals, &c. displaces 715 tons; her engines are of 140-horse power, and her wheels 20 feet in diameter, and 4 feet 9 inches wide. Number of revolutions when light, and in smooth water, 23 per minute. Lieutenant Kennedy, the commander of the Spitfire, in his report, of date 3d December, 1834, says, "Had put to sea with the wheels in weather in which it would have been madness to attempt in any vessel with the common wheel, but that she had gone over it 4½ knots an hour, without scarcely feeling the wheels moved. With the old wheels would have been forced to put back, but had with these (Morgan's) made his passage from Gibraltar to Falmouth against a heavy gale nearly the whole way."

The Lightning has been before described. Her commander, Mr. Allen, in reporting on the effect produced on her rate of going, by the adoption of Mr. Morgan's wheels, says that "the speed was much improved in heavy weather," and "the vibration nearly done away with."

The wheels of the Medea, the largest war-steamer yet constructed by the British Government, the Tartarus, and Blazer, are also on Mr. Morgan's plan.

During the last summer, Mr. Morgan was employed to fit a pair of his wheels to his Sardinian Majesty's steam-vessel Gulnare; and it is from these wheels, the latest (we believe) manufactured by Mr. M., that the drawings have been made.

The wheel, as now constructed by Mr. M., embraces a good many improvements on the original design of Mr. E. Galloway. The most prominent difference is an increase in the number of radial arms and paddles, from four to nine. To show how much the wheel has gained from the successive modifications which experience has suggested, we here annex an engraving and description of it in its original form, as given by Mr. Galloway himself, in his "History and Progress of the Steam-Engine":



"The object of this wheel is to provide a remedy for the loss of power, and other inconveniences arising from the oblique position in which the float-boards of the common paddle-wheels enter and leave the water. This the inventor purposes to effect by causing each float-board to turn, or rather vibrate, on an axis at its edge next the centre of the paddle-wheel, through the medium of projecting levers, firmly fixed to the float-boards, at their axis of motion, and connecting rods proceeding from the extremities of these levers to the extremity of a *fixed crank*, adjustable at a given distance from the centre of motion of the paddle-wheel, which consists of four radiating arms, connected at their extremities by strength-

ening braces; *b b* represent the four arms of the wheel, and *e e* the strengthening braces; *c c* are the paddles, firmly fixed to which are the levers *d d*, forming angles of about 120 degrees with each other, and turning together on axes at *e e*; *f* represents the water-line; *g* is the crank, fixed centrally to the axis of the wheel, but so as not to revolve with it; this crank is alterable at pleasure, by means of a set screw, which causes the paddles, through the medium of the connecting rods *i i i*, to take such an angle with the water-line as may be deemed most desirable for propelling; the rods *i*, however, are connected to a revolving collar on the crank, which allows of free rotary motion, while it draws the paddles uniformly into the positions shown in the engraving, when the arm of the crank is set in a horizontal position, as represented. The dotted lines show the position the paddles assume in the intermediate parts of their revolution, or the relative position they would take if there were eight paddles attached to the wheel."

AVERY'S ROTARY ENGINE proves, we are much pleased to be able to state, (as we do on good authority,) to be peculiarly adapted to milling purposes. The following statement, which we take from the Syracuse Constitutionalist, confirms fully the anticipations of those who have been familiar with its operations for more than two years; and other instances might be cited, if necessary—one especially, at the south, in which it performs to the entire satisfaction of those using it. Its simplicity, however, and entire safety, cause many to doubt its power, until they witness its performances—which, in some instances, may be said to be truly astonishing. As with many, *seeing* only is believing, we hope soon to be able to exhibit a sample of its performances in this office, attached to the press on which this Journal is printed, that will satisfy all those who may doubt. When it is in operation, due notice will be given.

"An experiment has been made in Mr. N. Felt's sawmill, in Cicero, with one of Wm. Avery's patent Rotary Engines, manufactured in this village by E. Lynds & Son, which has satisfactorily proved (if any further proof was indeed necessary) its superiority over any other now in use. Mr. F. some four years since procured a High Pressure Piston Engine for the purpose of propelling the machinery of his sawmill, but has never been able to produce any satisfactory results, and therefore discarded it entirely. At the suggestion of the Messrs. Lynds, he was induced to make an experiment with one of the Rotary Engines—one of which was accordingly attached to the same boiler used for the other engine, and put in operation. The experiment proved eminently successful, and those who witnessed its performances are well satisfied of its great utility in propelling machinery of every description, and also of its superiority to the engines in common use.

"The following statement of Mr. Lewis, who is deemed one of the first millwrights and mechanics in the state, sustained as it is by the opinions of a number of others well qualified to judge, will go to show in what estimation the invention of Mr. Avery is held by those who have experience in such matters:

"*To the Public.*—Having been requested by Messrs. Elam Lynds & Son, to examine a Rotary Steam Engine, manufactured at their foundry, (of Wm. Avery's invention,) now in Mr. N. Felt's Sawmill, and in which I am informed they have had a common Piston Engine, with which they were unable to operate their mill successfully,—being much pleased with the operation of the Rotary Engine, although it was laboring under great disadvantages, I embrace this opportunity of saying to the public, that I am satisfied that there is abundant power to operate a mill successfully, and I consider them far preferable to any other Steam Engine now in use for milling purposes. "ISAAC LEWIS.

"Syracuse, April 20, 1835.

"We were present at the above exhibition of the power of the Rotary Steam Engine, and fully concur with Mr. Lewis in his statement, from what we saw of the operation of the Engine, and from our confidence in him as a millwright and a practical mechanic.

ROSWELL HINMAN,
THOMAS SPENCER,
M. D. BURNETT,
M. S. MARSH,
DANIEL ELLIOTT,
L. H. REDFIELD,
ASHBEL KELLOGG,
J. G. FORBES,
P. D. MICKLES,
V. W. SMITH,
J. M. PATTERSON,
E. K. SMITH."

FOR THE NEW-YORK AMERICAN.

The 11th inst. is the day fixed upon by the Legislature for adjournment. In the confusion arising from the multiplicity of matters which will be pressed forward with the ardor of private interest, it is to be feared that matters of great public moment may be neglected. Are the citizens of New-York aware that they are deeply interested in the speedy accomplishment of a continuous Railroad line, reaching from the *tide waters of the Hudson* to the great navigable *waters of the western world?* And that this is on the eve of accomplishment, provided the Legislature can be induced to afford the necessary facilities to the action of private enterprise.

The Railroad from Albany to Schenectady has been in operation some years. The Schenectady and Utica Railroad will be completed so as to accommodate *the Summer travel of* 1836. The enterprising stockholders of the Syracuse and Auburn Road have put Engineers upon that line, who are followed by their agent ready to make contracts, with the intention to have their road in operation *as soon as the road shall be finished to Utica*, and the road from *Rochester to Batavia* is far advanced. It requires then to complete a Railroad throughfare from the Hudson River to Lake Erie, only the connecting link from Utica to Syracuse, about fifty miles, from Auburn to Rochester about sixty miles, and from Batavia or Utica to Buffalo about forty miles.

Applications are now pending for Charters to construct these several connecting links; companies are ready to take the stock, and proceed with the work immediately; and if they are allowed to proceed, there is every reason to believe, that this whole line will be completed and in operation within two years. The most important of these connecting links, are the two from Auburn and Rochester, and from Batavia to Buffalo—the long level of the Canal, without a lock between Utica and Syracuse, will, for a time, be a good substitute. Can New Yorkers fail to see the importance to this city, of opening *without delay*, this avenue, and using it, till more favorable State councils shall yield to what we consider the *just rights* of the *south-western* counties and the claims of *this city*?—Should there not be a loud call upon the attention of the Legislature to this matter, during the few remaining days of the session? X.

CANAL TOLLS.—There has been received for canal tolls, at the Albany collector's office, from the 15th to the 30th of April, both days inclusive, the sum of $42,015 65. This is by far the greatest amount received for tolls during the month of April in any one year since the canals were constructed. It exceeds last year, when the canal opened 2 days later, by the sum of $22,000: and it exceeds 1833, by the sum of nearly $18,000, when the tolls on merchandise were 25 per cent. higher; although in 1833 the canal opened several days later than in 1835.

The Erie canal was navigable in its whole extent on the 15th of April; and although the season was unusually backward and unfavorable, the navigation has been maintained without interruption. There will be no hesitation, after this experiment, about the practicability of opening the canal as early as the middle of April.

The N. Y. American has been filled with alarms about the diversion of the trade of the west, and its editor, at times, has seemed almost ready to exclaim with Mr. Ewing, "the canal is a solitude." To all who desire to know the truth on this subject, we offer the single fact, that there has passed up the Erie canal, during the month of April, 1835, at least twice as much merchandise as passed up during the same month in either of the three preceding years. Is this evidence that the early trade has been diverted from the canal?

The above article from the Albany Argus, has been excluded for two or three days past by the press of Foreign news. We now insert it, with all the satisfaction at the prosperity of the Erie canal, which it records, that can possibly be felt, by the Argus, or any party, directly and personally interested—which we are not—in the region to which the canal, dispenses, in its course, such substantial benefits.

But the Albany Argus seems incapable, or unwilling, to look at the question of public improvement, in any but one light—or to to believe, that off, or beyond, the line of the Erie Canal, and the Railroads parrallel with, or following, its course—there can be any just claim for legislative aid and countenance.

According to our view, this is neither honest nor patriotic. We think—and in forming our opinion in this matter, we are as absolutely without any personal interest, as in reference to the region affected by the Erie canal—that no man who seriously means the good of the State, and is not biassed by conflicting—or what he may suppose to be a conflicting—interest, can look at what is doing in Pennsylvania towards securing the trade of the Mississippi Valley, and at the unquestionable claims of our south-western counties, to some aid from the State, towards enabling them to compete with these efforts of Pennsylvania—without feeling, that the rejection by the present Assembly of the application of the New York and Erie Railroad Company, was, to those counties a wrong and an injury, and a grave error, as a mere matter of State interest and pride.

It was a want of just patriotism then—restricting on this occasion the use of that word to a paramount regard for one's own State,—not to have lent a willing and liberal hand towards the construction of the Eric Railroad.

* * * * * * *

As to the amount of tolls on the Canal in April, it proves nothing in regard to the main question, that of the early spring supply to the far West. The truth is, that the creative influence of the Canal, upon the Country through which it passes, has been such, that it can scarcely suffice for the transportation of the merchandize needed, and the produce raised, within the Counties contiguous to it. The recent vote for doubling the Canal may be

adduced in proof. It is the home demand, we venture to say, and not that for other States, which has pressed forward so rapidly. The Lake too at Buffalo was yet fast—and likely to remain fast, at the latest dates, with ice—while at Dunkirk and Portland, the proposed terminations of the Erie Road, the navigation has been open for weeks past. Moreover, as to the *fact* of much early trade to the Mississippi valley having been diverted from this city to Philadelphia—and through Philadelphia—we speak from personal knowledge.

With this fact, then, in view—with the spirited efforts we are daily witnessing on the part of Pennsylvania, to assure her superiority over us as carriers of the trade of the West—and with the knowledge of how difficult it is to change the channels of trade, when once worn deep—we repeat, that we consider the rejection of the prayer of the *New York and Erie Railroad Co.* a mistake in policy, and an injury and wrong to this city, and to the great Counties of the Southwest.

A Rebuke not unmerited.—The Philadelphia Inquirer of yesterday has this paragraph.

Within the last fortnight, the stocks of the Pennsylvania and Ohio Canal; of the Sandusky and Beaver Canal; and of the Portsmouth and Harrisburg Rail Road, all works of internal improvement, and designed to facilitate the intercourse between this city and the great West, have been readily disposed of in this city; and our capitalists are ready for any other movement calculated to advance the prosperity of Philadelphia. Contrast this commendable spirit of enterprise with that which has been manifested by the New Yorkers, in the case of the Erie Railroad, and no Philadelphian can fail to cherish a just and laudable degree of pride for the spirit and liberality of our merchants and capitalists generally.

Important and interesting Mission.—The Senate of the United States, at its last session, passed a resolution, requesting the President to consider of the expediency of entering into negotiations with the South American States, for the purpose of securing for our commerce and people, a safe passage across the Isthmus, from the Atlantic to the Pacific Ocean. In compliance with this recommendation of the Senate, we understand, the President has appointed Colonel Charles Biddle, of Tennessee, to conduct the negotiation, and that he is about to visit the Southern Continent, in prosecution of the objects in view.—[Pennsylvanian.]

On Providence.

From the Sonnets of Filicaja.

"Qual madre i figli con pietoso affetto"—

Even as a mother o'er her children bending
Yearns with maternal love: her fond embraces
And gentle kiss to each in turn extending,
One at her feet, one on her knees, she places,
And from their eyes, and voice, and speaking faces,
Their various wants and wishes comprehending,
To one a look, to one a word addresses,
Even with her frowns, a mother's fondness blending.
So o'er us watches Providence on high,
And hope to some, and help to others lends,
And yields alike to all an open ear,
And when she seems her favors to deny,
She for our prayers alone the boon suspends,
Or seeming to deny, she grants the prayer.

PRICES OF RAILROAD STOCKS,

At the New-York Stock and Exchange Board,

MAY 8, 1835.

	Par.	*Ask.*	*Offer.*
Mohawk and Hudson.....	100	127	127
Paterson.....	50	110	—
Ithaca and Owego.....	—	—	—
Saratoga.....	—	120½	120
Harlem.....	—	110	—
Boston and Providence....	100	121	120½
New-York and Albany....	—	—	—
New-Jersey Railroad and Transportation Line...	100	124	120
Camden and Amboy.....	100	147	—
Providence and Stonington.	100	108	107
Boston and Worcester.....	—	107½	106½
Philadelphia and Trenton..	100	107	106
Utica and Schenectady....	100	—	—
Jamaica.....	—	—	—
Saratoga and Washington..	—	119	112

The Michigan War.—An extra from the office of the Buffalo Whig, dated Monday last, furnishes the following intelligence, copied from the Detroit Free Press of the 29th of April.

We stop the press to announce the intelligence that the first blow has been struck in the Border War between Michigan and Ohio. In violation of his oath to support the Constitution of the United States, and of the sacred obligations of his State to the Union; trampling upon the laws of that Union, and upon both its rights and the rights of Michigan, the Governor of Ohio, in pursuance of an unconstitutional act of the Legislature of that State, and regardless of the admonitions he has received from the General Government, perseveres in his efforts to extend the jurisdiction of Ohio over a part of the Territory of Michigan. For that purpose, early last week, he sent the Commissioners of that state, escorted by an armed force, to the west end of our Territory, adjoining Indiana, to retrace and run the boundary line through Michigan, illegally claimed by Ohio.

A penal law of Michigan, which is a law of the United States until repealed by Congress, provides for the arrest and punishment of any person accepting or exercising within our Territory, any office or authority, unless derived from the government of Michigan, or of the United States. This law has been pronounced valid by the Attorney General of the United States.

In virtue of this act, information having been received on Saturday last, that the Ohio Commissioners, protected by an armed escort, were engaged in running the boundary line through Hillsdale and Lenawee counties, and affidavit of the facts having been made before Charles Hewett, Esq., of Tecumseh, that magistrate issued his warrant for the apprehension of Patterson, Taylor and Seely, the aforesaid Commissioners, and other persons engaged in violating the laws of the Territory. With this warrant, the Sheriff of Lenawee, summoning a posse of thirty or forty persons, the most respectable citizens of that county, proceeded on Saturday evening to Adrian, and on Sunday morning directed his deputies to go on with the posse, about fourteen miles due south of that place, where they understood the trespassers and violators of our laws were then probably stationed.

With the knowledge that those Ohio people were armed, it became an imperative duty to arm our posse. On arriving near the house of Phillips, 7 miles within the Michigan line, they found nine or ten armed men, ascertained to be a portion of the Ohio party. Two of the deputy sheriffs, leaving the posse thirty yards distant, immediately proceeded towards the house, advised the party that they had a warrant for their arrest, and demanded their surrender.

The Ohio men refused to surrender, raised and levelled their arms at the Sheriffs, and threatened to shoot them. Not daunted, those officers urged forward, and came within a few steps of the enemy. It became by this time evident, that they meant to run; and orders were given to fire over their heads, and bring them to, if they did run. As was expected, they took to their heels, but were chased, and captured. They had been instructed and they had threatened not to be taken alive.—Col. Hawkins, the Ohio Surveyor, and seven armed persons, nine in all, were made prisoners, and brought to Tecumseh for examination on Monday morning.

The Commissioners happened to be at another house, about 200 yards from the house of Phillips, at the time the above persons were captured.—They ran into the woods, were pursued, but could not be overtaken. Gen. Taylor, one of them, made a hasty retreat, to Maumee, about 30 miles, never stopping until he arrived there. The other Commissioners subsequently followed him.

The Governor of Ohio, who has a force of about 500 troops collected at Maumee, has issued orders for the raising and marching of 10,000 men to that point, declaring that he will never recross the Maumee Swamp until he runs the boundary line and extends the jurisdiction of Ohio over that part of our territory claimed by her. All this he proclaims he will effect, in despite of Michigan and any assistance which the U. States may afford her. If this threat should be attempted to be executed; if the Governor of Ohio should invade Michigan with an army, he and they will commit treason against the U. States, and be dealt with accordingly. One thing, at least is certain: Michigan will never submit to be invaded, nor to have the jurisdiction of Ohio extended over any part of her territory. We presume that an invasion will be promptly repelled, not by a posse, but by all the force that can be raised. Our militia law amply provides for the emergency,

We have no doubt, however, that the President, as soon as informed of the present state of things, will promptly interpose with effect against Ohio. The authorities of that State have inflicted a blow upon the Union of these States far more dangerous and destructive to it, than the Nullifiers of South Carolina aimed at it. Indeed, we are told that Gov. Lucas admits that his conduct amounts to Nullification.

[For the New York American.]

Weyer's Cave.

I hope I shall be pardoned for encroaching upon your territory of Politics and Internal improvements, and making a few remarks upon the great and magnificent wonder of nature above mentioned. It cannot be said too often, that we Americans, are sadly insensible to the beauties which nature has scattered over this noble continent. It is a reproach which ought to be wiped away from amongst us, and to that end our sense of shame cannot be mortified too often, or too severely. The means of travelling are so greatly improved, our national character is becoming so exalted, that it is a perfect outrage, that our Irvings and Hoffmans should be able to present to our eyes, a terra incognita within our borders. Americans should know more about their own country from personal observation, and instead of visiting Europe almost exclusively, to marvel at rivers and mountains, should bring to light the almost hidden treasures of nature, which have been lavished upon their native land.

Weyer's Cave is a natural curiosity which takes rank with the wonders of the universe—with the Falls of Niagara, with the Natural Bridge, and the far famed Grotto of Antiparos—and yet, out of Virginia, it is hardly known to exist. Those who have never seen it, can hardly form a conjecture of its sombre grandeur and splendor. Its silent chambers, buried many feet beneath the surface of the earth, extend nearly half a mile in length. The light of day never penetrates these solemn caverns—the "blessed sun" never reveals the treasures of nature which lie entombed within them. But when torch-light breaks the gloom which overhangs them, the brilliancy and grandeur of the scene is beyond all conception. The bright star, in a hundred different shapes, gleams all around, while the stupendous formations, and the grotesque imagery which meet the eye, make one doubt if he have not passed into a new state of being. The mind is carried back to the distant period when this silent labor of nature began—it contemplates the ages and ages which have rolled away, the empires which have fallen, while the little water-drop has silently and surely performed its office, regardless of the conflicts of nations, and heedless of the angry elements. But a newspaper is not the place to indulge in these reflections. I will make a few matter-of-fact suggestions, and then conclude this notice.

Weyer's Cave is situated in Augusta County, Virginia, in the Valley of the Shenandoah, and about seven miles from the Blue Ridge. It is perfectly accessible, and may be conveniently taken on the way to the Natural Bridge and the Sulphur Springs. The communication from this and the other Northern cities to Fredericksburg, is nearly the whole distance by steam—thence to Charlottsville the roads are very good. The Cave is only about 32 miles from the latter town, and the route one of the most picturesque in the whole state. With such facilities, our travelling community should not delay to make a visit to Weyer's Cave, and those who really love to look upon the works of nature, will not fail to go there. As a further inducement, I would remark, that the proprietor of the Cave, and all who are connected with it, are among the most intelligent and hospitable persons within the knowledge of

A Traveller.

NEW-YORK AMERICAN.

MAY 2—8, 1835.

LITERARY NOTICES.

History of New-York. 2 vols. By *Uncle Philip*. Comprising vols. XXIII. and IV. of the *Boys' and Girls' Family Library*. New-York—Harper and Brothers.—We repeat, on this occasion, what we have more than once said before in reference to Uncle Philip's admirable contributions to the cause of education, that though professing to be addressed to young minds, his books will, for the most part, afford instruction and amusement, to all of more advanced years, who have not had time, or opportunity, for much study.

In the volume now before us, the History of our own State is plainly and agreeably written—beginning with the discovery by Hudson, and brought down to the revolution.

We published, some days ago, and warmly commended the object of, a law recently passed by our Legislature, authorizing the inhabitants of school districts to levy a small annual tax for the purchase of a District Library. These books of Uncle Philips's are peculiarly of a character fitted for such libraries; for they are pure in sentiment, correct in style, and accurate in information.

We commend them, accordingly, to the attention of the Trustees of the School Districts, and of parents and instructors generally.

The Rise and Progress of Religion in the Soul—In a Series of Practical Addresses, by P. Doddridge, D.D., with an Introductory Essay by John Foster, author of Essays on Decision of Character, &c. 1. vol. New York. D. Appleton & Co.

This is a republication of an old and much approved book, written with a studious regard to plainness of style and statement, so as to be level to all capacities.

Its bulk is nearly doubled by the preliminary essay of Mr. Foster, written in his accustomed style of vigorous eloquence.

Journal, by Frances Anne Butler. 2 vols. Philadelphia: Carey, Lea, and Blanchard.—The long note of preparation which has preceded the appearance of this Journal, and the stolen fragments from it, which appeared originally in a Boston paper, and were thence transferred to many others, have combined to excite curiosity and interest to a degree, that we cannot but consider—without meaning to be ungallant—ridiculous. This nation—this great nation, as we are wont to consider ourselves—is on tiptoe, so to speak, to know what is thought and said of them, by a very clever young lady, whom necessity, and not her will or choice, made an actress.

The hour of suspense is past—the curtain is lifted, and without preface or explanation, "the Journal" is before the world. That it is a faithful transcript, so far as it goes, of the record made at the time, seems to us clear, from internal evidence.—How far the facts omitted—and to judge from the numerous asterisks, there are many such—might qualify what is retained, it concerns us not to inquire; for the book must be judged by what it is, not by what any one may choose to fancy it would have been, if all had been told.

Adopting this standard then, we may say, that "the Journal" is sprightly, amusing, careless, often vulgar, occasionally flippant—and then again fervid with taste, eloquence, and poetry: the opinions, incidentally expressed, concerning the habits and manners of this country, the tone of its society, the nature and tendency of its political institutions, are such as every one is, and should be, at full liberty to express, if they are entertained; and by the expression of which, we cannot fail to profit—if reason rather than vanity be our counsellor.

There is undoubtedly much in these pages that will shock and mortify individuals, and over sensitive people—very often because of the disagreeable fidelity and truth of the representations given—at other times because of the obvious injustice of these representations. Yet after all—at best and at worst—what does it all amount to? Simply this, that a young, well educated and clever woman, who had been idolized in her own country, and intoxicated by the unstinted breath of popular applause lavished on her theatrical performances—accustomed to a particular mode of life, to certain conventional notions of refinement—and coming among us with all the feelings of European superiority—a sentiment by no means confined to our visitors from England—is sometimes shocked by the display of of pretensions that seem to her unfounded and ridiculous, at others, is amused at the sensitiveness which she sees manifested, as to how such a "clever girl" as herself will look upon Americans—and that she describes with a sharp and biting pen the emotions she experiences.—Is there any bar to such freedom of opinion? Is there any breach of hospitality—so long as she does not individualize her pictures—in such a record of first impressions? above all, is there any want of gratitude in so doing? Surely not. On this score of gratitude, by-the-bye, there is a capital common sense note in the second volume of the Journal, which sets that matter in its true light. The idea that "gratitude" should be felt by actors, because their performances have been attended by large audiences, is very properly scouted—the whole thing is put upon the footing of a *quid pro quo*: the audience attend because they think the attraction of the performance worth the dollar it costs—and the actors play because they want the dollar of the spectator. When the curtain drops the account is balanced, and both parties are even.

Three times out of four this reasoning is equally true, as applied to the intercourse in private life, to which public personages—whether actors on the real, or the mimic, stage of life—are admitted in this country. They are sought as *lions*, and quite as much for the gratification of the entertainer's vanity, or love of novelty, as for the sake of obliging strangers. This cannot escape the notice of those so honored!—and the obligation therefore conferred by such advances, is balanced by the *éclat*, which they are made to feel, their presence at a fête will impart.

These remarks are not, it will be perceived, at all applicable to that sort of intercourse with strangers which results from a real admiration of merit and talent—from sympathy with, or respect for, peculiar avocations or pursuits, or from kindred genius and feeling—and accordingly it will be found, we think, throughout this Journal, that, although the necessarily heartless and selfish characteristics of general society, are touched off with a sharp hand, justice is done to the sincere and cordial greetings of more private circles.

Upon the whole, the only party likely to suffer by this publication, is the writer, for it certainly is beneath her reputation as a literary person.

Speeches and forensic arguments—by Daniel Webster, 2 vols.; *Boston*, Perkins, Marvin & Co.—For sale here by D. Appleton & Co.—We took occasion some days ago, to quote some of the preliminary remarks in the second volume of these speeches, in which justice was done to the talents and character of Mr. Webster. We had not then seen the publication, which however is now before us, and we recommend it to all readers, as one of enduring value.

We make an extract—not for its novelty—but because, although published before, it cannot be too often referred to, as illustrating the highest traits of Mr. Webster's character as a patriot, and talents as an orator.

It is the conclusion of his celebrated reply to Mr. Hayne, in the Senate of the United States.

Mr. President, I have thus stated the reasons of my dissent to the doctrines which have been advanced and maintained. I am conscious of having detained you and the Senate much too long. I was drawn into the debate, with no previous deliberation such as is suited to the discussion of so grave and important a subject. But it is a subject of which my heart is full, and I have not been willing to suppress the utterance of its spontaneous sentiments. I cannot, even now, persuade myself to relinquish it, without expressing, once more, my deep conviction, that, since it respects nothing less than the union of the States, it is of most vital and essential importance to the public happiness. I profess, sir, in my career, hitherto, to have kept steadily in view the prosperity and honor of the whole country, and the preservation of our federal union. It is to that union we owe our safety at home, and our consideration and dignity abroad. It is to that union we are chiefly indebted for whatever makes us most proud of our country. That union we reached only by the discipline of our virtues in the severe school of adversity. It had its origin in the necessities of disordered finance, prostrate commerce, and ruined credit. Under its benign influences, these great interests immediately awoke, as from the dead, and sprang forth with newness of life. Every year of its duration has teemed with fresh proofs of its utility and its blessings; and, although our territory has stretched out wider and wider, and our population spread farther and farther, they have not outrun its protection or its benefits. It has been to us all a copious fountain of national, social, and personal happiness. I have not allowed myself, sir, to look beyond the union, to see what might lie hidden in the dark recess behind. I have not coolly weighed the chances of preserving liberty when the bonds that unite us together shall be broken asunder. I have not accustomed myself to hang over the precipice of disunion, to see whether, with my short sight, I can fathom the depth of the abyss below; nor could I regard him as a safe counsellor in the affairs of this government, whose thoughts should be mainly bent on considering, not how the union should be best preserved, but how tolerable might be the condition of the people when it shall be broken up and destroyed. While the union lasts, we have high, exciting, gratifying prospects spread out before us, for us and our children. Beyond that I seek not to penetrate the veil. God grant that, in my day, at least, that curtain may not rise. God grant, that on my vision never may he opened what lies behind. When my eyes shall be turned to behold, for the last time, the sun in heaven, may I not see him shining on the broken and dishonored fragmens of a once glorious union; on states dissevered, discordant, belligerent; on a land rent with civil feuds, or drenched, it may be, in fraternal blood! Let their last feeble and lingering glance, rather behold the gorgeous ensign of the republic, now known and honored throughout the earth, still full high advanced, its arms and trophies streaming in their original lustre, not a stripe erased or polluted, nor a single star obscured—bearing for its motto, no such miserable interrogatory; as *What is all this worth?* Nor those other words of delusion and folly, *Liberty first, and Union afterwards*—but everywhere, spread all over in characters of living light, blazing on all its ample folds, as they float over the sea and over the land, and in every wind under the whole heavens, that other sentiment, dear to every true American heart—Liberty *and* Union, now and forever, one and inseparable!

ON THE IMPROVEMENTT OF SOCIETY BY THE DIFFUSION OF KNOWLEDGE; vol. IV. OF DICK'S WORKS —Philadelphia, KEY & BIDDLE.

We have now four volumes completed of the writings of Thomas Dick—all tending to the same great end, the improvement of the moral and intellectual condition of the human race.

The volume now before us is specially designed to illustrate the benefits which would result "from a more general dissemination of rational and scientific information" among all classes. It is well executed and amusingly—a great matter where instruction is concerned.

One great result that may be hoped for, from a more enlightened state of the public mind is thus set forth.

A general diffusion of knowledge would be one general mean of promoting *union in the Christian Church*.

It is a lamentable fact, that throughout the whole world, there is no system of religion the votaries of which are subdivided into so many sectaries as those who profess an adherence to the Christian faith. Within the limits of Great Britain there are perhaps not much fewer than a hundred different denominations of Christians belonging to the Protestant Church. We have Calvinists, Arminians, Baxterians, Antinomians, Arians, and Unitarians, Episcopalians, Presbyterians, Methodists, Baptists, and Independents,—Seceders, Brownists, Sandemanians, Quakers, Moravians, Swedenborgians, Millenarians, Sabbatarians, Universalists, Sublapsarians, Supralapsarians, Dunkers, Kilhamites, Shakers, &c. Of some of these there are several subdivisions.—Thus, there are three or four denominations of Seceders, four or five of Baptists, three or four of Methodists, and two or three of Glassites or Sandemanians. Most of these denominations recognise the leading truths of divine revelation,—the natural and moral attributes of the Deity,—the fall of man,—the necessity of a Saviour,—the incarnation of Christ,—the indispensable duty of faith in him for the remission of sins,—the necessity of regeneration, and of holiness in principle and practice,—the obligation of the moral law,—the doctrine of a resurrection from the dead, and of a future state of rewards and punishments,—in short, every thing by which Christianity is distinguished from Mohammedanism, pagan idolatry, and all the other systems of religion that prevail in the world. Yet, while agreeing in the leading doctrines of the Christian faith, they continue in a state of separation from each other, as if they had no common bond of union, and as rival sects, are too frequently in a state of alienation, and even of open hostility. The points in which they differ are frequently so minute as to be incapable of being accurately defined, or rendered palpable to an impartial inquirer. Where the difference is most apparent, it consists chiefly in a diversity of opinion respecting such questions as the following: Whether the election of man to eternal life be absolute or conditional,—whether Christ died for the sins of the whole world, or only for a limited number,—whether there be a gradation or an equality among the ministers of the Christian church,—whether every particular society of Christians has power to regulate its own affairs, or ought to be in subjection to higher courts of judicature,—whether the ordinance of the Lord's Supper should be received in the posture of sitting or kneeling,—whether baptism should be administered to infants or adults, or be performed by dipping or sprinkling, &c. Such are some of the points of dispute which have torn the Christian church into a number of shreds, and produced among the different sectaries mutual jealousies, recriminations, and contentions. When we consider the number and the importance of the leading facts and doctrines in which they all agree, it appears somewhat strange, and even absurd, that they should stand aloof from each other, and even assume a hostile attitude, on account of such comparatively trivial differences of opinion, especially when they all profess to be promoting the same grand object, travelling to the same heavenly country, and expect, erelong, to sit down in harmony in the mansions above. The grand principles of human action, which it is the chief object of Revelation to establish, and the precepts of morality, which ought to govern the affections and conduct of every Christian, are recognised by all; and why then should they separate from each other, and remain at variance on account of matters of "doubtful disputation?"

The *evils* which flow from such a divided state of Christian society are numerous, and much to be deplored. A sectarian spirit has burst asunder the bonds of Christian love, and prevented that harmonious intercourse among Christians which is one of the chief enjoyments of social religion. It has infused jealousies, fanned the flame of animosity and discord, set friends, brethren, and families at variance, and shattered even civil communities into factions and parties. It has kindled contentions and heart burnings, produced envyings, animosities and hatred of brethren, burst asunder the strongest ties of natural affection, and has led professed Christians to violate the plainest dictates of humanity and of natural justice. It has excited a feverish zeal for the peculiarities of a sectary, while the distinguishing features of Christianity have either been overlooked or trampled under foot. It has wasted money unnecessarily in erecting separate places of worship, which might have been devoted to the promotion of the interests of our common Christianity. It has even corrupted our very *prayers*, infused into them human passions, and a spirit of party, and confined them to the narrow limits of our own sectary, as if the Omnipotent, whom we profess to adore, were biased by the same prejudices as ourselves, and dispensed his favors according to our contracted views. Could we fly with the swiftness of an angelic messenger through the various assemblages convened on the Christian Sabbath, while they are offering up their prayers to heaven, what a repulsive and discordant scene would present itself, when we beheld the leaders of certain sectaries confining their petitions to their own votaries, imploring a *special* blessing upon themselves, as if they were the chief favorites of heaven, lamenting the errors of others, throwing out inuendos against rival sectaries, taking credit to themselves as the chief depositories of gospel truth, and thanking God for their superior attainments in Christian perfection! How unlike the noble, benevolent and expansive spirit which Christianity inculcates!—Nay, the intolerance which the divisions of the Chistrian church have engendered has established Inquisitions for the purpose of torturing and burning supposed heretics,—has banished, imprisoned, plundered, hanged, and committed to the flames, thousands and ten thousands, on account of their religious *opinions;* and many eminent characters, illustrious for piety and virtue, have fallen victims to such unchristian barbarities.

In particular, the divisions and contentions of Christians have been one of the chief causes of *the progress of infidelity*. The truth and excellence of our religion can only be exhibited to the world by its effects. And when, instead of love, union, and harmony among its professors, we behold bitter envyings, schisms, contentions, and animosities, there appears nothing to allure vicious and unthinking minds to examine its evidences, and to give it an impartial hearing.—"First agree among yourselves," infidels reply, "and then we will consider the truth and importance of your opinions." Such a mode of reasoning and conduct is indeed both absurd and unfair, when the genuine doctrines and requisitions of Christianity are clearly stated in its original records, and which they ought to examine for themselves; but it is a circumstance much to be deplored, that Christians, by their sectarian animosities, should throw a stumbling-block in the way of rational investigation into the truths and foundations of religion, and cause thousands to stumble and fall to their destruction. But what is perhaps worst of all, it has greatly retarded, and still retards, the universal propagation of Christianity through the world. Something has been effected, of late years, by various sections of the Christian church, in their separate capacities; but it is not too much to affirm, that, had they acted in combination and in harmony, in the missionary cause, ten times more good would have been effected than has ever yet been accomplished. Besides, in our present mode of propagating the gospel among the heathen, we are, to a certain extent sowing the seeds of those unhappy dissensions which have so long prevailed among ourselves. And, therefore, till the different religious denominations in this and other Christian lands be brought to a more general and harmonious union, we cannot expect to behold a rapid and extensive propagation of primitive Christianity throughout the pagan world.

Such are some of the evils which a sectarian spirit has produced in the Christian Church.

A PRACTICAL VIEW OF THE PREVAILING RELIGIOUS SYSTEM OF PROFESSED CHRISTIANS, &c. &c. &c. CONTRASTED WITH REAL CHRISTIANITY. By WM. WILBERFORCE; with an introductory essay, by Rev. DANIEL WILSON, Bishop of Calcutta: 1 vol. KEY AND BIDDLE.

The sensation produced by the publication of this religious work by a *layman*—by one, too, then occupied and connected personally with the most important measures of the national Legislation,—and which was, as the introduction states, "poured out, as it were, in the interval of two sessions of Parliament," was not ephemeral or transitory. The "Practical View" has held and holds its place as one of the most remarkable and influential books ever published—which wins not more by the earnestness and sincerity of its tone, than by the conciliatory style in which it is written. It is any thing but polemical in its temper and expositions.

It was first published in 1797—when a torrent of infidelity seemed to threaten Great Britain—and when, unless the higher and middling classes could be aroused to the duties and responsibilities of "real Christianity"—all the institutions of religion were in danger of being overthrown. It contributed then mainly to arousing the right spirit, and will serve long to keep it up.

A TREATISE ON WATER-WORKS, FOR CONVEYING AND DISTRIBUTING SUPPLIES OF WATER; WITH TABLES AND EXAMPLES. Charles P. Storrow.—Boston.

This is the title of a small work which has recently been issued from the Boston press. The object of the author, in the language of his preface, was "not to produce an original treatise, but to present the theories of the most eminent philosophers and engineers, on the subject of Hydraulics, in such a form as to be easily understood, and to show, in a simple manner, how they should be applied in solving questions which are, or soon will be, of daily occurrence to the engineers of this country." The habits of persevering industry and patient investigation which distinguish the author, and his reputation as a practical engineer, give assurance that he has treated his subject with ability, and accomplished all which he aimed. We commend his treatise to public attention as a practically useful and *seasonable* contribution to the cause of science.—[Communicated.]

WORKS OF ROBERT SANDS.—It gives us pleasure to learn and to state, that a second edition of the works of Sand is about to be published by the Messrs. Harpers.

Messrs. Carey, Lea & Blanchard have received from the author, and put to press, the second part of Geoffrey Crayon's Miscellany. As it treats of Abbottsford and Newstead Abbey, we may expect the most authentic and interesting details concerning Scott and Byron.—[Nat. Gaz.]

FOREIGN INTELLIGENCE.

LATER FROM EUROPE.—By the British ship *Arkwright*, from Aberdeen, and the American ship *Josephine*, from Belfast, dates of 30th March from Aberdeen and Belfast, and 28th from London, are received.

Lord Canterbury, who was about to proceed to Canada, as Commissioner, to inquire into their

grievances, &c. will not now, it is said, owing to some domestic circumstances, come out.

Lord Amherst is appointed Commissioner to Canada in the place of Lord Canterbury.

M. Dumon, as Chairman of the Committee, read the report, which was a detailed analysis of the ground on which the 25,000,000 had been stipulated. It concluded with a bill for the appropriation.

STILL LATER FROM EUROPE.—By the *Poland*, packet ship from Havre, papers of the 10th ult., are received—and the intelligence they bring is every way interesting.

First of our own affairs. The discussion on the American indemnity had commenced. The speech of the Duke of *Fitzjames* is *balderdash* from beginning to end, and shows most palpably the weakness of the opposition to the law. The answer of the Minister of the Interior puts the question on the strong ground of justice—and explicitly states moreover, that the measure recommended, is a *Cabinet measure*. As such, strengthened as it was by the avowed support of many members, acting habitually against the cabinet, it could not fail of being carried. It is to be remarked moreover, that the minister refers in his speech to the refusal of the Senate, to grant the President unconditionally, the three millions proposed by the House; so that the closing proceedings of Congress, were known to the Chamber, before the discussion took place—and as there was nothing to follow after, which could affect the solution of the question, it may be considered certain, that the bill has passed.

Of English affairs we speak, we confess, not without solicitude for the future. The defeat and resignation of Sir Robert Peel's ministry, seem to us but the prelude of troubles to come in that country, of which the issue can hardly be for good. Who the successors of the late ministry were to be, was not ascertained at the latest dates—though Lord *Melbourne* is again talked of as Premier. But he is not equal to the crisis, and could not conduct the country through a single session of Parliament. Perhaps Lord Durham might; but it would only be by yielding to *radicalism* more, than even that anomalous creature, a Democratic Peer, could probably bring his mind to.

Meantime, agitation and uncertainty will prevail in England, and much of the property of the cautious, will probably seek safe investment in this country—a country, happily, which mis-government, however it may disgrace it, cannot ruin.

The death of the youthful husband, of the more youthful Queen of Portugal, is an event that strikes one with the sort of solemn personal interest and regret, always excited by the sudden and mysterious termination of a life eminently brilliant, and full of hope and promise. He died, it would seem, like General Washington, of the croup or quincy, occasioned by taking cold—though, of course, owing to the suddenness of the death, the rumor went forth that he was poisoned.

Of the reported conflict between a Russian squadron and an English ship-of-war, off the Dardanelles, there is no confirmation, and of course, therefore, as the dates by the Poland are so much later, it is to be put down, as unfounded.

Havre, 10th April.—The American frigate Constitution of 60 guns, Commodore Elliot, arrived yesterday from New-York in our roads. This morning Com. Elliot landed for the purpose of traveling post to Paris, and receiving there the orders of Mr. Livingston.

The Constitution has been expected for some days. This frigate is employed as is well known for the purpose of carrying the American Ambassador back to New-York in the now very probable event that the vote of 25 millions will be rejected by the Chambers.

A singular coincidence of facts occurred yesterday, connected with the question of the American Indemnity.

Yesterday, the American packet ship Albany arrived, bringing back our Ambassador.

In the afternoon of the same day, we learned the arrival in our roads of the American Frigate Constitution, for the purpose of taking home Mr. Livingston, the Ambassador of the United States.

And yesterday, whilst these two diplomatic arrivals, so to say, took place, the Chamber was discussing the question of the American indemnity. The very question which led to this arrival of vessels, and recall of ambassadors.

Superstitious persons will perhaps draw from this singular coincidence of circumstances, a favorable or unfavorale augury as to the difficulties between us and the United States. But for our part, we only see in it another reason that the Chambers should act expeditiously in an affair so embarrassing to commercial business and our political relations.

The French corvette Ceres arrived at Brest from New York, on the 15th March.

PARIS, April 10.—*Resignation of the English Cabinet.*—Sir R. Peel was on Tuesday again left in the minority on the Resolution moved by Lord John Russel for embodying in the Tithe Bill the appropriation principally recognised in the late motion on the Irish Church, the numbers being in favor of the resolution 285, against it 258—majority against Ministers, 27. The Right Hon. Gentleman had declared in the course of a most able speech, in opposition to the motion, that he could not consent to retain office if it carried, and consequently on Wednesday afternoon he placed his resignation of the Ministry in the hands of the King. This was not positively known (as will be seen by our extracts) when the evening papers went to press, but second Editions have reached us, confirming the important fact of the retirement of the Ministers, which we yesterday (exclusively) laid before our readers.

The Duke of Wellington, on the meeting of the House of Lords in the evening, announced that his Grace, with the rest of his colleagues, had tendered their resignations, and only held their offices until the appointment of their successors. In the House of Commons Sir R. Peel took his seat at 10 minutes before five o'clock, and was received with cheers from both sides of the House. He was followed by upwards of 100 members, who were most anxious for seats, but they were obliged to content themselves with standing at the back and places in the gallery, the House being then full. The Speaker went through his daily list of members in turn to present petitions. Amidst the continued anxiety of the House, not a word could be heard until the Right Hon. Minister rose. He expressed his deep reluctance to take the step which he had felt himself compelled to adopt in laying the resignation of the Cabinet at the feet of his majesty, in consequence of the cordial support he had received from the King, and the confidence reposed in his political views by a great party in the House.

But looking to the little progress made in public business since the commencement of the session, and especially to the votes upon the Irish Church, concluding with that of the preceding night, he had felt, and his colleagues unanimously joined him in opinion, that they could not continue to carry on the Government with advantage to the country. The Right Hon. Baronet, in conclusion, recommended an adjournment until Monday, to give time for making new arrangements, which was adopted, with the understanding, that a meeting for an election case should take place on the following day. Sir Robert left the House immediately afterwards, and was received by the assembled crowd with loud cheers. The Right Hon. Gentleman appeared in excellent spirits, and was followed by a vast number of persons to the Home Office, in Downing street, by whom he was repeatedly cheered.—[Galignani.]

LONDON, MARCH 30, 1835.—Lord Elliot left town on Saturday afternoon for the continent, having been charged by his Majesty's government with a special mission to Don Carlos, with a view of preventing for the future those executions of prisoners, which have hitherto too frequently attended the warfare on both sides.

Death of Prince Augustus of Portugal.—The English papers of 6th April, which we just receive, contain the following important intelligence:

Prince Augustus Charles Eugene Napoleon de Leuchtenberg, consort of the Queen of Portugal, died suddenly on the 28th March.

BEET ROOT SUGAR.—A Committee of the French Chambers have made recently a long and elaborate report, on the state of their tariff, and the effect of high duties, in the course of which, the article of imported sugars necessarily led to an examination of the quantity of that staple manufactured in France.

The report "enters at great length into the state of the manufacture of beet-root sugar, and brings to light a variety of circumstances respecting that description of sugar hitherto but little known even in France. It appears that this sugar, not being liable to duties in any way proportioned with those levied on the colonial article, has established a competition in the home market which is highly injurious to the importer of and the dealer in the latter. The number of manufactories of beet-root sugar in various parts of France has been increasing rapidly of late years. Land destined for the cultivation of beet-root is let at a higher rent than for any other production. About 18,000,000 kilogrammes, equal to 36,000,000 lbs. or 18,000 tons a year of the article are manufactured, according to the latest estimates, and the profits it yields to the manufacturer are enormous. The committee recommend that beet-root sugar should be taxed in such a way as to be of advantage to the revenue, without being injurious to the interests of the colonial planter and the refiner of colonial sugar."

Lord Brougham on the presentation of a petition for the abolition of stamp duties on newspapers in England observed, "that the number of copies of papers paying stamp duty, and printed in England, amounted in the whole year (including town and country papers) to 30,000,000; being in proportion to the population 1-25th part of the quantity published in America. The people there, wishng to see the proceedings of the Government, and possessing habits and feelings similar to those of the people of this country, purchased from 1-25th to 1-30th more newspapers (taking the population into account) then were called for here, because in America there was no tax upon newspapers.

SALE OF AMERICAN LANDS IN LONDON.—The London Courier of the 26th March, has this announcement.

An important sale of freehold American lands in the state of Virginia took place on Wednesday, in the Auction Mart, which was crowded to excess with a highly respectable company. Mr. George Robins, in an able and elaborate statement, detailed the property, which was illustrated by maps and drawings. It comprehends a portion of 50,000 acres of carefully selected lands, purchased some years since, under advantageous circumstances, out of 1,800,000 acres. The land is almost exempt from taxes, and the State of Virginia unencumbered by any public debt. The Legislature of Virginia has recently passed an Act for a railroad passing through the lands in question. The selected lands were divided into portions of various sizes from 50 to 100 and 200 acres, each of which possesses the best timber suitable for the building of houses, fences, ect. The yearly average produce of an acre of land giving from 60 to 72 bushels of Indian corn, is net in cash from 1*l.* 2s. to 1*l.* 5s.; and, varying in quality from 40 to 50 bushels, from 16s. to 17s. 6d. The tobacco crops are very productive. The country abounds in iron, lead, and coal mines, and Mr. Robins urged the important benefits to be derived from purchasing largely in this "the Land of Promise." The tithe and poor rates, were unknown in Virginia; wages were comparatively nothing. Upon a farm of 600 acres, the taxes did not exceed six shillings. The fee simple of one hundred acres of the best quality of land, which in this country would consume 5000*l* or 6000*l* might at this sale be obtained for less than 300*l*. The lands were submitted in 91 lots—the first division, 7,265 acres in the country of Logan; the second, 2,517 acres on the waters of the Spruce Fork of Little Cole River. The first parcel, containing 600 acres of land, the yearly average of taxes upon which is about 5s. a year, was knocked down for 1,450 guineas. The above lot may serve as a criterion for the whole of the 47 that were submitted. The lots unsold Mr. Robins said were open to private contract, amounting to about five thousand acres in various farms, from 50

acres to 500 each, and will be sold by auction in London, on 15th April, in case any of them remain unsold.

SUMMARY.

BALLOONING.—The Cincinnati papers contain the following annunciation by *Mr. Clayton*, whose voyage to the mountains of Virginia, excited much interest for a moment. Its success will, we apprehend, have the effect of spoiling a good mechanic, by making him permanently an adventurer, in a career that leads to nothing:

Grand Aerial Voyage from the Ohio to the Atlantic.—The Aerial Ship, or Star of the West, which lately made a voyage from Cincinnati to the Alleghany Mountains, 350 miles, in 9 1-2 hours, will take her departure from Cincinnati, about the middle of May, and, if the wind permit, proceed to the Atlantic Ocean.

R. Clayton respectfully informs his friends and the public, that he has made several alterations in his Aerial Machine, which will enable him to continue in the atmosphere a greater length of time than he continued on his last voyage, and that he is desirous of making a voyage, if the wind be favorable, from this city to the Atlantic Ocean.

R. C. will be supplied with a Mail Bag, containing the Newspapers of the day, and a number of letters for the East.

He will take his departure from an Ampitheatre on Court street, between Race and Elm street, at 6 o'clock in the evening.

Due notice of the day of ascension will be gvien.

The Baltimore American of yesterday, gives this account of another balloon flight.

The Balloon Flight.—Mr. Mills and the young lady who accompanied him in his balloon excursion on Monday afternoon, returned to this city yesterday, at noon. According to Mr. M's note of the time, he started from Fairmount at 32 minutes after 4 o'clock. The balloon was wafted by the breeze in a northeasterly direction, and its flight was no near the earth, that the æronauts exchanged salutations with perhaps a hundred persons on the different farms over which they passed. An occasional change in the currents of air, produced corresponding variations from a direct course, and the voyage was prolonged until a quarter after six, when the weather assumed a squally appearance. Mr. M. then determined to alight, but did not succeed in obtaining a secure grapple for his anchor until, having carried away the pannels of several fences, it was firmly fixed in the branches of an apple tree. The æronauts then landed in safety, and the balloon was afterwards secured without damage. The spot where they descended was in Peach Bottom township, York County Penn., near the banks of the Susquehanna river.

MAN-OF-WAR LAUNCH.—The last Army and Navy Chronicle says—"We understand that considerable progress had been latterly made in preparing the frigate Columbia for launching; this vessel has been several years on the stocks at the Navy Yard in Washington, but no work has been done upon her for a long time until recently.

The Globe states, that owing to the repeated failures of the Eastern Mail to reach Washington, by reason of accidents happening to the engine on the *Camden and Amboy Railroad*, the Post Office Department "is taking active measures to prevent a recurrence of the evil."

From Hudson's Merchants' News-Room Correspondent.

By the Brig Bourne, 50 days from Monrovia, (Africa,) we learn that a brig and schooner, slave traders, with about 1200 slaves, were captured off *Caliba* by two British men-of-war, and also, about Feb. 1st, at *Little Bassa*, the slaves on board of a Spanish schooner, about 60 in number, rose upon the captain, whom they shot, and released themselves from their bondage.

[*From the Boston Daily Advertiser.*]

THE LATE VOLCANIC ERUPTIONS IN GUATEMALA. We are indebted to a friend for a pamphlet published in Comayagua, in Honduras, by authority of the Surepme Government of the State, containing a collection of reports from various public officers of the remarkable volcanic phenomena which appeared in that region on the 21st, 22d and 23d days of January last. The different reports describe the effects and appearance of the eruption at different places. They are of too great length to admit of giving the whole. The following is a translation of one of these documents:

Official communication from the City of Nacaome to the Minister General, of the event from the 20th to the 26th of the present January, being a true copy of the original.

Citizen Minister General of the Supreme Government of the State:—The 20th of the present month, at half-past 6 o'clock in the morning, a port took place as of the discharge of many heavy cannon, twelve minutes after the commencement. It continued until a quarter past 12, when a violent shock took place, which was then the presage of a new eruption; the rumblings now concloud was observed upon the summit called Cosiguina, which arose in a pyramidal form, with so many hues, and of such density, that we immediately presumed it to proceed from a volcanic eruption. At some height it separated into two parts, one spreading over the summit of Conehagua, and the other towards the Peak of Pespire. Up to this time, nothing more was heard than dull subterraneous noises, nor had any trembling been felt. The cloud continued to spread, and the general alarm increased. At half-past ten, there no longer remained a doubt of the malignity of this phenomenon, then extending itself with greater rapdity over this place. At half-past 11, it became necessary to use artificial light, and at 12, we were involved in a general darkness which it is difficult to conceive, nor does any traditions exist of such, in events of this description. Public prayers were immediately determined to be offered up by the inhabitants and their worthy Pastor. At half-past 2 in the afternoon, by the light of torches and candles, a supplicating procession moved. A little before, a shower of fine sand had commenced falling. In its course, the wind from the east having greatly increased, precipitated such a quantity of a kind of ashes or calcined dust, (powder,) that many persons found it difficult to follow in the procession, or even to find their own houses, and some shocks now began to be felt. At 5 o'clock in the afternoon, the ground was covered to the depth of three inches with this dust; at 6 o'clock its density was diminishing considerably, leaving the respiration more free. In the midst of great affliction, and in the performance of acts of religion, we passed that memorable night of mourning and alarm. At 11 o'clock on that night, and at four in the morning, there were two violent shocks, and alternately various slight ones, all preceded by rumbling, as well as sharp detonations, which were heard from an early hour in the evening. The 21st, the day dawned serenely, dissipating in some measure our apprehensions. At 8 o'clock in the morning, our hopes were dampened, on finding that the great quantity of volcanic matter with which the atmosphere was charged prevented the passage of the rays of the sun, which, however, for some moments displayed an opake and sulphurous surface. On this day, the dust fell in less quantity, and much finer. In the same manner the shocks continued strong and slight. During the night of the same, the noises and reports which have been already mentioned, continued. At the dawn of day, the shower of dust was abundant. We had arrived break of day on the 22d, without our sad situation having been ameliorated; on the contrary, the opacity was greater. The noises and shocks continued. The neighborhood of this city, its square (or citadel) and streets, were covered with four or five inches of the exhalations mentioned, and so fine that at the least breath of air they would rise, filling the organs of respiration; the trees in the fields, the roofs of houses were the same, and the rivers were infected by a baneful stench.

In this situation, this municipality, with the concurrence of their pastor, thought proper to assemble the inhabitants for the purpose of adopting suitable measures for the exigency. The only ones which have occurred until now, is to endeavor to wet the dust, which we believe to be most injurious to health, and to supply the people with provisions. In both which the inhabitants have assisted with promptness, as well by their personal services, as pecuniary, considering in the meantime what other measures of policy and salubrity they might adopt. On this day, the horizon was observed to become clear, and the atmosphere freer. From time to time slight shocks and rumblings were experienced. The ev'ning twilight was clear; the stars were soon discovered; the sky became considerably clear, and at 12 o'clock at night praises and thanksgiving to the Supreme Being were heard, for the now ascertained improvement of our critical situation. But at this veryhour, a rumbling noise was heard, which continued increasing without interruption until a violent retinued with some intervals of a frightful silence. A dark column was seen to ascend anew from Consiguina, covering this place, concealing the stars and filling our hearts with mourning and affliction, now terrified by the incessant noise for a quarter of an hour of the dreadful reports and shocks. At 5 o'clock on the morning of the 23d, day broke without witnessing any increase in the clearing of the atmosphere, which however was sufficient to discover the cloud and new eruption which threatened us. Prayers and supplications to the Omnipotent God began; each quarter of an hour augmented the general terror; this reached its greatest height at half past 8, when the darkness considerably decreased the little clearness of the twilight. This whole population believing that their last hour had now arrived, was assembling every moment in groups of persons of all sexes and all classes at the house of our venerable pastor, and with lamentations and sobs begged for absolution from their sins. The latter, who unfortunately was quite ill, absolved them in part, until notwithstanding his painful situation, he repaired to the square, that he might be the better able to excite them to contrition, to absolve them as he could in such terrible circumstances. At 9 o'clock all terminated, and a scene more terrible than any preceding began. The dreadful rumblings were repeated, the sky, notwithstanding the darkness, displayed reddened glares, which excited fears of the atmosphere being enkindled. At half past 10, thunders were heard in various directions, with sharp lightnings, caused by the combustible matter floating about in our atmosphere; the same effects, without any difference, which the most violent tempest causes in the most rainy months of winter. In short, Senor Minister, every description falls short of giving an idea of this memorable event, no expressions can be found to convey it. The darkness continued the whole of the day, the noise and rumblings began to subside at two o'clock in the afternoon, the dust with which the cloud was impregnated fell abundantly, accompanied by fine sand: night arrived, which was passed in the deepest consternation, awaiting the day-break to disperse the darkness which had continued uninterrupted, except for a very short time, for the space of 36 hours. On the 24th at day-break, although somewhat clear, the atmosphere was loaded with vapors like whirlwinds of dust, which the slightest wind raised, and it was considerably obscured. The 25th and 26th continued in the same manner. Our grounds and buildings are covered to the depth of seven or eight inches with the pulverized matter mentioned, in which are found birds of all kinds suffocated. Some quadrupeds from the forest have sought for shelter in this town, and the rivers filled with the same substance have cast upon their shores an innumerable quantity of fishes in a torpid state, and some dead.

This body in drawing up the preceding relation does not pretend to give an exact picture of an event so frightful, but with the greatest care and circumspection it can scarcely be sketched, all minds being too much overwhelmed in consternation to describe it in any other way. We intend nothing more than to lay before the Supreme Government the notice of so fatal a catastrophe, sufficient to enable it to give promptly adequate orders for the remedy of our disaster.

Be pleased, Citizen Minister, to communicate this to the Supreme Government, and accept the assurances of esteem and respect to which this corporation has the honor of subscribing.

NACAOME, January 26, 1835.—Placido Jacquin, J. M. Boquin, Antonio Alceno, Jacinto Boijas, Antonio Gutieres, J. Domingo Castillo, Juan Mojis, Francisco Dias, Secretary.

PHYSICAL EDUCATION.—From a discourse on "the Dangerous tendency to Innovations and Extremes in Education," by the Rev. H. WINSLOW, the following remarks on what is called "physical education," are entitled to attentive consideration:

Temperate and judicious exhibitions of the nature and importance of physical culture, are timely and important; but the ultra notions are becoming prevalent, that large physical development and high toned physical energy constitute the substratum of mind, and are essential to the loftiest intellectual achievements. Hence the abundance of declamation and loose remark upon the importance of gymnastic exercise. At some of our schools and colleges, gymnasia are constructed for the express purpose, it would seem, of educating the muscles. Other literary institutions embrace a system of manual labor, laying under demand a considerable portion of their pupils' time. As though great strength, agility and magnitude of the physical system were essential to the student's object, the doctrine is becoming popular, and he who would aspire to long life and intellectual eminence, must make a large sacrifice of time and attention to the same kind of discipline with those whose employment for life is to be physical labor.

As far forth as systems of manual labor in connexion with literary institutions can subserve needed pecuniary ends, they have their importance; but their ultimate and prolonged success is questionable. That so much of the exercise and strength of the laborer should be put upon the student, as the modern doctrine teaches, seems to be against both nature and experience. Even *a priori* reasoning would teach us, that if God has intended a division of labor, he has so constituted the human system that it may be trained to different pursuits. All mankind are destined to some degree of mental cultivation; but he who is to be *professionally* engaged for life in intellectual pursuits, must be as far as possible *totus in illis*, and must therefore train himself to the least physical necessities and to the greatest and most continued intellectual effort practicable, leaving the more special cultivation of sinews and muscles to those who have a more special use for them.

The calling of the laborer is as honorable, useful and important as is that of the student, but these two callings do not require the same kind of training, either physically or intellectually; nor is the physical system of the student to be kept in the same condition with that of the laborer, any more than the intellectual system of the laborer is to be kept in the same state with that of the student. Man was not designed to be a *fac totum*. Let so much of his time, thoughts, and feelings be expended upon his physical cultivation as is requisite to develop all his physical powers in their utmost strength and luxuriance, and so much goes to the animal that ordinarily little goes to the intellectual. That physical perfection is not essential to mental eminence, is evident from the fact that men of the most distinguished minds have even usually had a thorn in the flesh.

Exercise and recreation are important to the student, but they should be such as to improve and interest his mind, while they benefit his body. Botanical, mineralogical and geological excursions; exploring the curiosities of nature; occasionally unbending with music and the fine arts; a morning walk with Thompson, and a little of the elixir of good living society, with strict temperance and a cheerful temper, may usually serve him the double purpose of at once sustaining his health and enriching his mind. The great evil is, that most students in our schools and colleges are totally ignorant of the laws of life, and know not how to regulate their diet, to graduate their exercise and to form their habits as students ought to. Were half the time and expense bestowed upon gymnasia and workshops given to support an experienced, scientific, wise lecturer, who should visit our literary institutions and instruct their pupils *how to live*, it is confidently believed that we should have more scholarship and less dyspepsia.

We are no advocates for asceticism and a studied corporal attenuation, and certainly we would not wittingly insert or cultivate thorns in the flesh;—they usually come fast enough of themselves. We would rather so bring the body into subjection, as to render them unnecessary. We care not how comfortable the student's accommodations, how spacious and airy his room, how commodious his desk, whether he sit upon a naked bench or a cushion; we would only have him avoid notions and extremes, think as little of his body as possible, and adopt the simple style of living appropriate to his calling. As to that all important organ, the stomach, the seat of life and sensibility, the source of so much joy and sorrow to man while man is mortal, we consider it a blessed ignorance if no symptoms shall ever admonish him that he has one.

But public attention is now directed from the stomach to the head. The craniological fever is on, and will have its run. Blessed is the man now, who has a fine skull! Any novice, who has just taken a peep into anatomy and physiology and their vital connexion with mental science, who has read Bichat, Brouissais and Combe, but especially Gall and Spurzheim—can determine the intrinsic phenomena of his neighbor's mind, with the place and manner of its growth; and, by ocular and sensible demonstration, can reveal its character and size, with an assurance which will surprise a future generation. The venerable doctrine of heathen India, that the intellectual and moral fate of every man is written in the sutures of his skull, is springing up among us with the pretended charms of novelty, though somewhat disrobed of its oriental beauty. Phrenology, thoroughly studied and understood, unfolds some interesting general facts, but the present charms of its details are adapted to fascinate animalized minds of fanciful temperament, rather than minds of a severely intellectual and scientific character.

Allowing brain to be the organ of intellectual operations and membrane of sensibilities and moral affections, which we believe to be sound doctrine, or admitting the more popular doctrine, that all the operations of the soul have pitched their tent together in the head, is not the quality and condition of brain as important as the quantity and shape? The vigor of the hepatic secretions does not depend so much upon the shape and size of the liver, or of the ductus choledochus, as upon its quality, its healthfulness, its right condition in point of adaptedness to other related organs. So of all the physical organs and functions, in their relations both to the body and to the mind. So many facts and circumstances, not obvious to external inspection, are connected with their vigorous or feeble operations, that we are slow to forestall our judgement of men by the appearance of their heads, or any other external marks. With becoming deference therefore to the sublimely important and interesting sciences of craniology, ophthalmoscopy, nosology, physiognomy, gastronology, dermoidonology and myonology, all of which have found their advocates and are entitled to their day, which afford amusement, and help the confident to know and the wise to guess, we must still be allowed, when we would sit in sober judgement upon men, to adhere to the good old fashion, and judge every man mainly according to his deeds; and not by the volume or protuberances of his cranium and the height and majesty of his forehead; or by the shape, magnitude and polish of his eye; or by the contour, elongation and luxuriance of his nose; or by the configuration and cast of his face; or by the periphery, diameter and longgitude of his perigastrium; or by the complexion and texture of his epidermis; or by the strength and rigidity, or the feebleness and beauty of his muscle.

The Supreme Power.

[From an eloquent article in the North American Review, by Edward Everett.]

"It has been as beautifully as truly said, that the undevout astronomer is mad." The same remark might with equal force and justice be applied to the undevout geologist—Of all the absurdities ever started, none more extravagant can be named, than that the grand and far-reaching researches and discoveries of geology are hostile to the spirit of religion. They seem to us, on the very contrary, to lead the inquirer, step by step into the more immediate presence of that tremendous POWER, which could alone produce and can alone account for the primitive convulsions of the globe, of which the proofs are graven in eternal characters, on the side of its bare and cloud-piercing mountains, or are wrought into the very substance of the strata that compose its surface, and which are also day by day, and hour by hour, at work, to feed the fires of the volcano, to pour forth its molten tides, or to compound the salubrious elements of the mineral fountains, which spring in a thousand valleys. In gazing at the starry heavens, all glorious as they are, we sink under the awe of their magnitude, the mystery of their secret and reciprocal influences, the bewildering conceptions of their distances.—Sense and science are at war—The sparkling gem, that glitters on the brow of night, is converted by science into a mighty orb,—the sources of light and heat, the centre of attraction, the sun of a system like our own. The beautiful planet, which lingers in the western sky, when the sun has gone down, or heralds the approach of morning,—whose mild and lovely beams seem to shed a spirit of tranquillity, not unmixed with sadness nor far removed from devotion, into the very heart of him who wanders forth in solitude to behold it—is in the contemplation of science, a cloud wrapt sphere; a world of rugged mountains and stormy deeps. We study, we reason, we calculate. We climb the giddy scaffold of induction up to the very stars. We borrow the wings of the boldest analysis and flee to the uppermost parts of creation, and then shutting our eyes on the radiant points that twinkle in the vault of night, the well instructed mind sees opening before it, in mental vision, the stupendous mechanism of the heavens. Its planets swell into worlds. Its crowded stars recede, expand, become central suns, and we hear the rush of the mighty orbs that circle round them. The bands of Orion are loosed, and the sparkling rays, which cross each other on his belt, are resolved into floods of light, streaming from system to system, across the illimitable pathway of the outer heavens. The conclusions which we reach, are oppressively grand and sublime; the imagination sinks under them; the truth is too vast, too remote from the premises, from which it is deducted; and man, poor frail man, sinks back to the earth, and sighs to worship again, with the innocence of a child or Chaldean shepherd, the quiet and beautiful stars, as he sees them in the simplicity of sense.

But in the province of geology, there are some subjects, in which the senses seem, as it were, led up into the laboratory of divine power. Let a man fix his eyes upon one of the marble columns in the Capitol at Washington. He sees there a condition of the earth's surface, when the pebbles of every size, and form, and material, which compose this singular species of stone, were held suspended in the medium, in which they are now imbedded, then a liquid sea of marble, which has hardened into the solid, lustrous, and variegated mass before his eye, in the very substance of which he beholds the record of a convulsion of the globe. Let him go and stand upon the sides of the crater of Vesuvius, in the ordinary state of its eruptions, and contemplate the lazy stream of molten rocks, that oozes quietly at his feet, encasing the surface of the mountain as it cools with a most black and stygian crust, or lighting up its sides at night with streaks of lurid fire. Let him consider the volcanic island, which arose a few years since in the neighborhood of Malta, spouting flames from the depth of the sea;—or accompany one of our own navigators from Nantucket to the Antarctic ocean, who finding the centre of a small island, to which he was in the habit of resorting, sunk in the interval of two of his voyages, sailed through an opening in its sides where the ocean had found its way, and moored his ship in the smouldering crater of a recent extinguished volcano. Or, finally, let him survey the striking phenomenon which our author has described, and which has led us to this train of remark, a mineral fountain of salubrious qualities, of a temperature greatly above that of the surface of the earth in the region where it is found, compounded of numerous ingredients in a constant proportion, and known to have been flowing from its secret springs, as at the present day, at least for eight hundred years, unchanged, unexhausted. The religious sense of the elder world, in an early stage of civilization, placed a genius or a divinity by the side of every spring that gushed from the rocks, or flowed from the bosom of the earth. Surley it would be no weakness for a thoughtful man, who should resort, for the renovation of a wasted frame, to one of those salubrious mineral fountains, if he drank in their healing waters as a gift from the outstretched, though invisible hand, of an every-where present and benignant Power.

From "The Memoirs of celebrated Women," recently republished among us, we take a notice to-day of one, whose youth, loveliness, extraordinary acquirements, and early fate, appeal with great force to the heart and the imagination.

Lady Jane Gray.

[*From Memoirs of Celebrated Women of All Countries. By Madame Junot.*]

Ambition punished, seldom excites pity; but can a tribute of commiseration be refused to a beautiful woman, only seventeen years of age, who laid her head upon the block to expiate the ambition of another? Such was the fate of Lady Jane Gray! A crown had no attractions for her—she had no desire to reign! It seemed as if this unfortunate and lovely young creature felt her feet slip on the very steps of that throne which the Duke of Northumberland forced her to ascend. A warning presentiment told her that a life of quiet seclusion was the only means she had of escaping a violent death. She long resisted the fatal counsel of her father-in-law; but she was dragged on by her evil destiny.

Lady Jane Gray, born in 1537, was the granddaughter of Mary Tudor, sister of Henry VIII. This princess, being left a widow by the death of her husband, Louis XII. King of France, and having no children by this marriage, returned to England and married Brandon, Duke of Suffolk, whom she had long loved, and who was Lady Jane's grandfather. The subject of this memoir, when she was scarcely sixteen, married Lord Guildford Dudley, fourth son of John Dudley, Duke of Northumberland. Lady Jane Gray was beyond measure lovely: her features were beautifully regular, and her large and mild eyes were the reflection of a pure and energetic soul, tho' peaceful and unambitious. She had a strong passion for study, especially that of abstruse science. Though young, she had acquired vast learning, and was deeply read in the ancients: she was very familiar with Greek, and extremely partial to Plato. Living at one of her country seats, she divided her time between her books and her husband, until political events of high importance troubled her peaceful life and destroyed her happiness.

Edward Seymour, Duke of Somerset, Protector of England, exercised over that country a despotic sway to which the nobles would no longer submit. The latter, equally disgusted with the pride of Thomas Lord Seymour, the Protector's brother, applauded the Duke of Northumberland when he succeeded in successively removing these two favorites from the king's person; and Northumberland thought himself popular, when he was only loved on account of his hatred to the Seymours. Edward VI., a weak and sickly child, who could ill bear the weight of the crown that encircled his pallid brow, always bestowed his favor upon those near his person, and Northumberland succeeded Somerset. But the new favorite, fearing, and with good reason, that he should not long retain this station, as the King might die, and was indeed then dying, though only sixteen years of age, employed, with considerable address, the prejudices of religion to gain his ends. He described to Edward, in hideous colors, the character of his sister, Mary the Catholic; and represented in an equally unfavorable light, Elizabeth, daughter of that Anna Boleyn who was condemned and executed for adultery. Could then the crown of England, he asked, be placed upon a dishonored brow, or the welfare of the English nation be entrusted to an intolerant fanatic? Northumberland was a man of ability: he shook the timid conscience of Edward, who, fearing Mary's violence, and prejudiced against Elizabeth, changed the order of succession, and designated as his successor, Jane Gray, the eldest daughter of Henry Gray. On the King's death, Lady Jane was, through the exertions of Northumberland, proclaimed Queen. In vain did the lovely young creature entreat her father-in-law to allow her to retain her freedom: the obstinate Duke, always at the head of intrigues, determined to gain his point with her whom he deemed a child. "Shall it be for nothing," said he, "that I have caused the daughters of two queens to be declared illegitimate in order to place the crown upon the head of my daughter-in-law? No indeed!"—The ambitious old man sent for the princesses Mary and Elizabeth to London, without informing them of the King's death, which he kept concealed. But Mary, being acquainted with Northumberland's projects, escaped the snare; and steel made her triumph over the obstacles which he placed between the throne and herself.—Steel!—steel, flames, and scaffolds, were about to constitute the laws of Mary the Catholic—of Mary the bloodthirsty!

She soon entered London, with prayers on her tongue and vengeance in her heart. In vain did Northumberland resist her: he was vanquished, deserted by every one, and together with Lady Jane Gray and his son, Lord Guildford Dudley, imprisoned in the Tower.

Poor Jane Gray!—she had resisted her father in-law's wishes only to yield to them and die after a reign of nine days!—for the unfortunate and lovely woman reigned no longer. Scarcely had she placed upon her head that crown so fatal to the touch—which falls but to drag the heads of kings along with it—ere she was shut up in a dungeon soon to lay her head upon the block! Alas! she had a presentiment of her fate, when she refused to exchange her diadem of flowers for the regal crown of England.

Meanwhile, Mary considered that the death of Northumberland alone was sufficient to appease her vengeance and secure her peaceful possession of the throne. Lady Jane Gray and her husband were confined in the tower of London;—in the same place as that Elizabeth, who was destined at a later period to show the world that a woman may become a great sovereign. For a time, Mary suffered Lady Jane Gray to live, because she thought that, being queen of England both by right and force, she might reign in future without taking away the lives of her enemies. But such are the dreadful consequences of violence, that, when once adopted, the only road left open is one of bloodshed; and to deviate from it then is impossible.

Mary was a Catholic and a bigot; and being betrothed to Philip of Spain, she was anxious to offer a nuptial present worthy of him who was one day to become the father of Don Carlos. She therefore commanded that all her subjects throughout England should submit to the See of Rome; and as the English then professed the Reformed religion, and were attached to it, Mary directed also that scaffolds should be erected, and piles of fagots raised for burning heretics. On the issuing of these orders, insurrections broke out in every part of the kingdom. The Queen shuddered whenever she heard the names of her sister and her cousin; she stormed with rage at the people who called for Lady Jane Gray; and to silence them—to answer their call—she threw them the head of that unhappy lady!

Poor Jane! Thou wert dragged from thy peaceful retirement to be placed against thy will upon a throne, and to fall from it into a dungeon! The ministers of vengeance and fanaticism are now come to drag thee from thy prison, and force thee upon a scaffold!

Mary was alarmed at the cries of sedition uttered by the people. Lady Jane and her husband were brought before an iniquitous council, who condemned them both to die; and the Mayor of London having begged that a public example might be made, obtained that Lord Guildford Dudley should be executed in public. The unfortunate nobleman, on his sentence being communicated to him, requested an interview with his wife. She refused to see him, but wrote him a letter to the following purport:

"Do not let us meet, Guildford—we must see each other no more until we are united in a better world. We must forget our joys so sweet, Guildford, our loves so tender and so happy.—You must now devote yourself to none but serious thoughts. No more love, no more happiness here upon earth!—we must now think of nothing but death! Remember, my Guildford, that the people are waiting for you, to see how a man can die. Show no weakness as you approach the scaffold; your fortitude would be overcome, perhaps, were you to see me. You could not quit your poor Jane without tears; and tears and weakness must be left to us women. Adieu, my Guildford, adieu! be a man—be firm at the last hour—let me be proud of you."

Guildford died like a hero, and Jane was proud of him. Ah! it was not from weakness that this noble minded creature refused the crown;—she was happy with her books, her affection, and her beloved husband, under her own bowers of flowers. It was the absence of happiness, in a crown, not its weight that alarmed her.

She saw her husband leave the Tower and proceed to the place of execution. She prayed a long time for him; her own turn then came, and she prepared for death. Mary, desirous of increasing her sufferings, pretended to convert her, and offered to pardon her if she would abjure the reformed religion. But with a sweet smile of sadness, she refused. For at that time what was life to her?—nothing but a vast solitude through which she should have to wander alone and deserted. She preferred death!

For three days she was assailed by the importunities of Catholic priests, who thought they had shaken her faith. Jane made them no reply, but continued her prayers. Having written a last letter of adieu to her sister, the Countess of Pembroke, she took off her mourning, dressed herself in white, had her long and beautiful hair cut off by her female attendants, and walked boldly to the place of execution. When, however, she saw the sparkling of the steel axe, she turned pale. She knelt, prayed again, lifted up her eyes and looked at the heavens!—then placing her head upon the block, she received the stroke that conferred upon her a crown of which no human passions could deprive her—the crown of martyrdom!

This was the the third time in London, within a period of twenty years, that the blood of a queen had stained the scaffold. The reign of Elizabeth was to present a fourth act of the same tragedy.

Catherine Gray, Countess of Pembroke, was more to be pitied than her sister Jane; for, after all, what is death to any one who has lost every thing that makes life valuable! But Catherine, separated from a world in which the man she loved still lived, must often have prayed to God to give her the sleep of the grave.

Catherine Gray had married the Earl of Pembroke; but their union was so unhappy that both demanded a separation, and their marriage was dissolved by a judicial act. She then became the wife of the Earl of Hertford, who set out for France, leaving her pregnant. Catherine Gray being of the royal blood of Tudor, her marriage without the consent of her sovereign was imputed to her as a crime; and on ascending the throne, Mary, as happy in having to inflict punishment as another would have been to show clemency, condemned her to imprisonment for life. The Earl of Hertford on his return from France, was also sentenced to imprisonment, and the Archbishop of Canterbury declared the marriage null and void. Nevertheless the Earl protested against the sentence of the Archbishop, as well as against that of his other judges. He loved Catherine with the tenderest affection; and still looking upon her as his wife, bribed the keeper of the tower and obtained access to her prison. Catherine became a mother a second time; and Mary persecuted the Earl of Hertford with all the vindictive hatred of a Queen whose authority is despised, and of a woman already past the age of inspiring love, who cannot forgive young people for their superiority in this respect. The Earl's accusation consisted of three counts: First, of having seduced a princess of the royal blood; secondly, of having violated a state prison; and thirdly, of having approached a woman from whom the law had separated him. He was condemned to a fine of five thousand pounds sterling for each offence. He paid the fifteen thousand pounds, and after a long confinement consented to sign a voluntary act of separation from Catherine; but not till after a long struggle, and a resistance which bore ample testimony of the strength of his attachment.

The unfortunate Catherine Gray died in prison, in 1562, after a long and painful captivity. Like her sister Jane, she was learned and fond of study. Both were young and lovely, and the fate of both showed that royal birth is no security against misfortune. Tears are shed in the palaces of kings as well as the peasant's hovel; and arms loaded with jewels often bear the chains of captivity. Poison is sometimes drunk in a cup of gold, and the crowned head severed by the executioner's axe!

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P. S.—Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J13am H. BURDEN.

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

☞ Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13 1y

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RAILWAY IRON.

95 tons of 1	inch by	¼	inch,	*Flat Bars* in lengths of
200 do.	1¼	do.	⅜	do.	14 to 15 feet, counter sunk
40 do.	1½	do.	⅜	do.	holes, ends cut at an angle
800 do.	2	do.	⅜	do.	of 45 degrees, with splicing plates and nails to
800 do.	2½	do.	⅜	do.	suit.

soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels

Axles of 2⅛, 2⅜, 2⅝, 3, 3⅛, 3⅜, and 3½ inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

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SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street,
J31 6t corner of Maiden lane.

SURVEYING AND ENGINEERING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new*, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker,
No. 9 Dock st., Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee the following information. The whole number of Levels now in possession of the department of construction of thy make is seven The whole number of the "Improved Compass" is eight These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Sup't of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.
m1 1y Germant. and Norrist. Railroad